Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan

Aledo
Alexis
Joy
Keithsburg
Matherville
New Boston
New Windsor
North Henderson
Seaton
Sherrard
Viola

February 2010

Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan

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With Assistance from: Illinois State Water Survey

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February 2010

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Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force

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Bickle	Julie	Aledo
Doherty	John	Aledo
Fender	DeWayne	Aledo
Hamerlinck	Jennifer	Aledo
Litwiler	Dennis	Aledo
Mattlick	Tina	Aledo
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Sponsler	Mike	Aledo
Thompson	Tom	Aledo
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Sims	Gene	Alexis
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Askew	Arnold	Keithsburg
Gibson	Terri	Keithsburg
Henry	Maxine	Keithsburg
Adams	Larry	Matherville
Basala,	Kevin	Matherville
Harris	Tom	Matherville
Dixon	Dennis	New Boston
Marston	Dustin	New Boston
Mills	Brian	New Boston
Neeld	Chris	New Boston
Schrock	David	New Boston
Schroeder	Dan	New Boston
Brendal	Clayton	New Windsor
Peterson	Michael	New Windsor
Smith	Ralph	New Windsor
Brown	Ronald	North Henderson
Remrey	Marvin	Reynolds
Melton	Gary	Seaton
Strom	Bernard	Seaton

Last Name	First Name	City
Ayers	Terry	Sherrard
Graham	Dianne	Sherrard
Henry	Delbert	Sherrard
Schnowski	Donald	Sherrard
Zwilling	Al	Sherrard
Doonan	Kirk	Viola

PURPOSE STATEMENT
Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force

The Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan identifies local hazard mitigation goals and objectives, and specific hazard mitigation actions to implement over the long term that will result in reduction in risk and potential for future losses associated with the occurrence of natural hazards.

The Task Force worked to reduce the impact of natural hazards on citizens, infrastructure, private property, and critical facilities through a combined effort of communities, institutions, and citizenry to develop a mitigation action plan that will be adopted and implemented by each participating community.

Natural Hazards Being Considered

Severe Storm/Tornado
Severe Winter Storm
Drought
Extreme Temperatures
Flood
Earthquake

Jurisdictions Participating in NFIP

Mercer County
Aledo
Keithsburg
Seaton
New Windsor

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Introduction

Why a Mitigation Plan?

Communities look to protect the health, safety, and welfare of their citizens. Related to natural hazard events this has traditionally meant responding to the needs of the community after an event occurs. Mitigation looks to reduce the need for response by permanently removing people and structures from harms way when a known area of impact can be identified (such as a floodplain) or significantly reducing the impact from a known risk (such as a tornado). This Plan provides an assessment of the risks to Mercer County from natural hazard events and a comprehensive range of mitigation projects to lessen the impact of these hazards on our communities. With the availability of mitigation grant funding from the Federal Government, communities have the opportunity to implement mitigation projects that would not otherwise be financially possible. The preparation of this plan follows the guidelines to make participating communities eligible to apply for mitigation grant funding.

Community Participation in Plan Development

The criteria that would constitute satisfactory jurisdictional participation in the planning process were established at the first meeting of the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force. Figure 1 shows the required participation elements established. All other communities met these requirements.

Figure 1: Participation Guidelines for Jurisdictions

Attend a minimum of 1 meeting
Submit a list of relevant community documents
Confirm hazards that affect the community
Confirm the list of critical facilities submitted by Hazus
Develop goals and projects for the community
Develop and prioritize mitigation actions for the community
Hosted opportunities for public involvement
Reviewed and commented on draft plan

Mercer County Demographic Overview

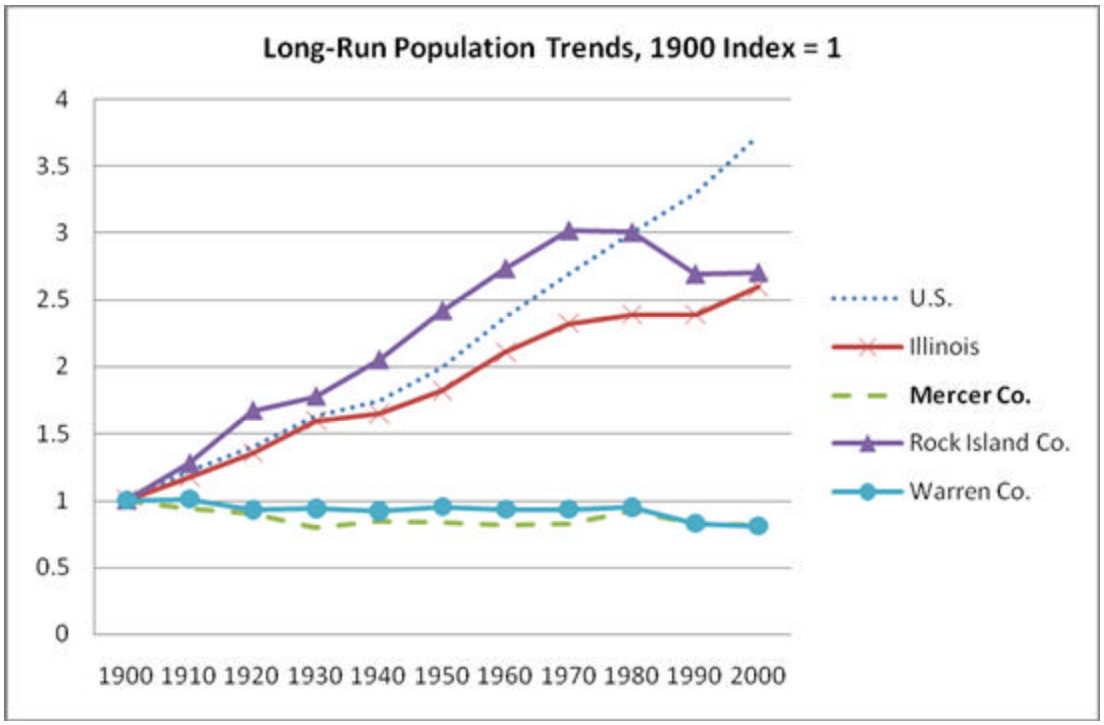
The following data is presented to provide an overview of Mercer County. All data are benchmarked against two near neighbors Rock Island and Warren counties, and when appropriate the State of Illinois and the nation.

Population Trends

Long-Run Population Trend

The population in Mercer County has fluctuated slightly decade by decade since 1900. There have been periods of small growth in population, but overall population decline has dominated. In 1900 the county had a population of 20,945 and by 2000 the county population had shrunk to 16,957, a decrease of 19 percent. In comparison, Mercer's neighbor Warren County saw a nearly identical decrease of 19 percent of county population over the same time period. However, Rock Island County saw dramatic growth of 170 percent, which outpaced statewide population growth (ref. Figure 2).

Figure 2: Long-Run Population Trend

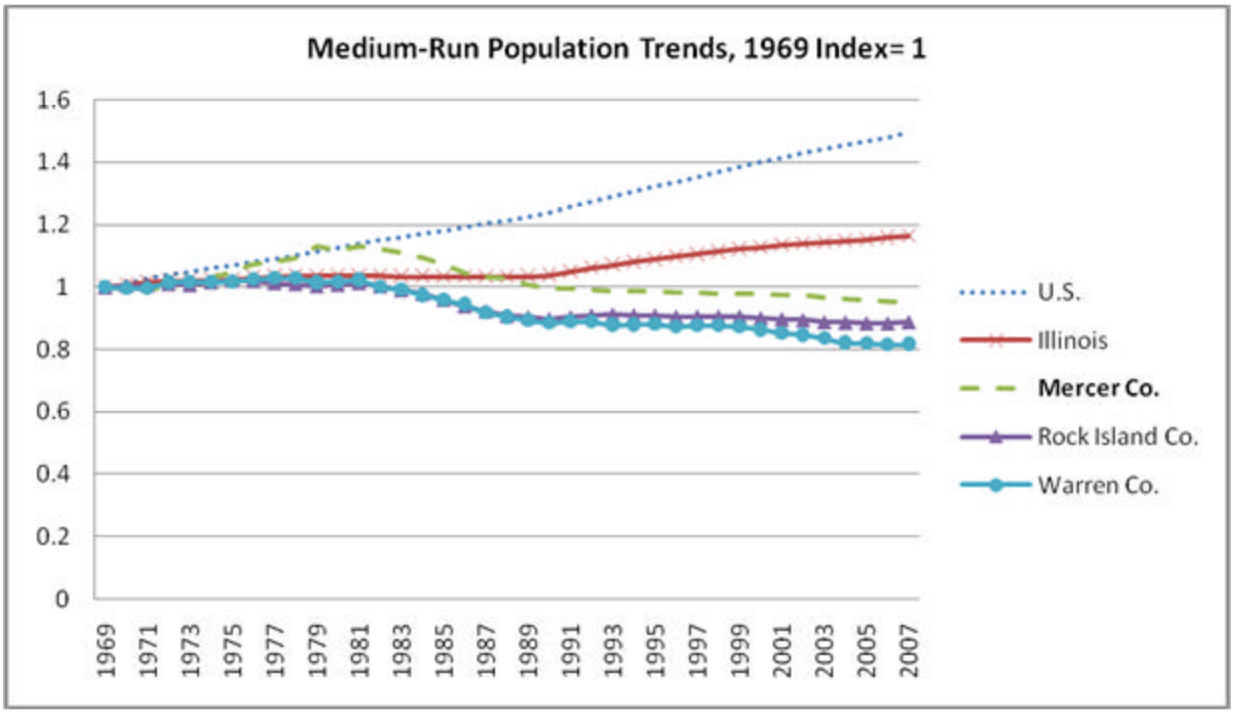


Source: U.S. Census Bureau Decennial Census 1900-2000

Medium-Run Population Trends

Population in Mercer County declined from 17,315 in 1969 to 16,453 in 2007, a loss of about 5 percent. The population trend over this time period was marked by a period of growth between 1969 and the early 1980s. This growth trend reversed in the 1980s and by the early 1990s the population had returned to its 1969 level. Since the 1990s the population has continued to slowly decrease. Similarly, Mercer's nearest neighbors Rock Island and Warren counties both also saw shrinking populations over the same time period, though the percentage of population lost was greater in these two counties than in Mercer (ref. Figure 3). Conversely both the State of Illinois and the nation grew in population over this time period.

Figure 3: Medium-Run Population Trends



Source: Bureau of Economic Analysis, Regional Employment Information System

Age of the Population

Mercer County has an older population than Rock Island County, the state and the nation, but a younger population than Warren County. It is estimated that 21.1 percent of Mercer's population is under the age of 18. This is the lowest percentage amongst all benchmark areas with the exception of Warren County. Conversely, Mercer County has the second highest percentage of persons over 65 years of age amongst all benchmark areas ref. figure 4).

Figure 4: 2008 Estimated Percentage of Population Under 18 and over 65

2008 Estimated Percentage of Population Under 18 and Over 65

	U.S.	Illinois	**Mercer Co.**	Rock Island Co.	Warren Co.
Under 18	24.42%	24.92%	**21.05%**	22.82%	20.91%
Over 65	12.71%	12.16%	**17.05%**	15.61%	17.51%

Racial Make-up of the Population

Mercer County's population is predominantly white and non-Hispanic. Whites comprise an estimated 97.8 percent of the population. Non-Hispanics of any race make up 98.4 percent of the total population. Mercer County has a similar racial population make-up as its neighbor Warren County, though Warren County does have a larger Hispanic population. In contrast, the more populous Rock Island County has larger non-white and Hispanic populations

Figure 5: Population Make-up

2008 Estimated Racial Make-up

	U.S.	Illinois	**Mercer Co.**	Rock Island Co.	Warren Co.
White	72.72%	71.39%	97.75%	83.32%	92.71%
Black	12.43%	14.76%	0.50%	7.58%	2.33%
Other	14.85%	13.85%	1.75%	9.10%	4.96%

2008 Estimated Hispanic Population

	U.S.	Illinois	**Mercer Co.**	Rock Island Co.	Warren Co.
Hispanic or Latino	15.24%	15.13%	1.60%	89.51%	5.38%
Not Hispanic or Latino	84.76%	84.87%	98.40%	10.49%	94.62%

Source: Clartias 2008 Estimates

Income

Median Household and Per Capita Income

In 2000, the median household income in Mercer County was $41,162. This was higher than both Warren and Rock Island counties which had median household incomes of $36,477 and $38,841 respectively. A more recent measure furnished by the Bureau of Economic Analysis tracks per capita income. In 2007 the per capita income in Mercer County was $32,881. This was higher than Warren County which had a per capita income of $26,516, but lower than Rock Island County at $35,228.

Poverty Rate

In 2007, 8.1 percent of Mercer County's population lived below the poverty line. The poverty rate amongst children under 18 was 12 percent. Mercer County compared favorably against all benchmark areas in both poverty measures (ref. Figure 6).

Figure 6: Poverty Status

2007 Estimated Poverty Status

	U.S.	Illinois	**Mercer Co.**	Rock Island Co.	Warren Co.
Population in Poverty	13.0%	11.9%	**8.1%**	13.2%	12.9%
Children in Poverty	18.0%	16.6%	**12.0%**	20.1%	17.1%

Source: U.S. Census Bureau, Small Area Income & Poverty Estimates

Housing and Households

Household Types

Married couple families are the largest household type group in Mercer County. While this is also the largest group in all of the benchmark areas, a greater proportion of Mercer County households are married couples (ref. Figure 7).

Figure 7: 2008 Estimated Households

2008 Estimated Households by Type and Presence of Own Children*

	The United States		Illinois		**Mercer Co.**		Rock Island Co.		Warren Co.	
Total Households	114,694,201		4,786,787		**6,627**		60,962		6,581	
Single Male Householder	13,067,150	11.39%	553,697	11.57%	**670**	**10.11%**	7,975	13.08%	713	10.83%
Single Female Householder	16,999,226	14.82%	735,190	15.36%	**918**	**13.85%**	11,188	18.35%	1,094	16.62%
Married-Couple Family	60,032,267	52.34%	2,496,554	52.16%	**4,219**	**63.66%**	30,043	49.28%	3,728	56.65%
With own children	27,564,656	24.03%	1,189,297	24.85%	**1,707**	**25.76%**	11,854	19.44%	1,443	21.93%
No own children	32,467,611	28.31%	1,307,257	27.31%	**2,512**	**37.91%**	18,189	29.84%	2,285	34.72%
Male House-holder	4,690,889	4.09%	191,940	4.01%	**222**	**3.35%**	2,288	3.75%	267	4.06%
With own children	2,358,947	2.06%	87,622	1.83%	**135**	**2.04%**	1,254	2.06%	157	2.39%
No own children	2,331,942	2.03%	104,318	2.18%	**87**	**1.31%**	1,034	1.70%	110	1.67%
Female House-holder	13,575,547	11.84%	567,244	11.85%	**475**	**7.17%**	6,992	11.47%	568	8.63%
With own children	7,988,457	6.97%	318,719	6.66%	**289**	**4.36%**	4,504	7.39%	357	5.42%
No own children	5,587,090	4.87%	248,525	5.19%	**186**	**2.81%**	2,488	4.08%	211	3.21%
Nonfamily: Male Householder	3,704,076	3.23%	143,153	2.99%	**87**	**1.31%**	1,452	2.38%	140	2.13%
Nonfamily: Female House-holder	2,625,046	2.29%	99,009	2.07%	**36**	**0.54%**	1,024	1.68%	71	1.08%

Source: Claritas 2008 Estimates

*In contrast to Claritas Demographic Estimates, "smoothed" data items are Census 2000 tables made consistent with current year estimated and 5 year projected base counts.

Owner Occupancy Rates

Mercer County has a high rate of owner occupancy. In 2008, an estimated 79.5 percent of occupied housing units were owner occupied. This owner occupancy rate was higher than all benchmark areas (refigure 8.

Figure 8: Occupancy Rates

2008 Owner vs Renter Occupancy Rates

	U.S.	Illinois	**Mercer Co.**	Rock Island Co. .	Warren Co.
Owner Occupied	67.1%	68.2%	**79.5%**	70.0%	74.4%
Renter Occupied	32.9%	31.8%	**20.5%**	30.0%	25.6%

Source: Claritas 2008 Estimates

Housing Type

Detached single-family homes are the predominant housing type in Mercer County. In 2008, an estimated 86.8 percent of housing units in Mercer County were detached single family homes. Mercer County had a higher proportion of detached single family homes than all benchmark areas (ref. Figure 9)

Figure 9: Housing Units

2008 Estimated Housing Units by Units in Structure

	U.S.	Illinois	**Mercer Co.**	Rock Island Co.	Warren Co.
1 Unit Attached	5.5%	5.1%	**1.0%**	2.6%	0.7%
1 Unit Detached	60.8%	58.4%	**86.8%**	70.8%	82.3%
2 Units	4.0%	6.6%	**1.4%**	5.0%	3.5%
3 to 19 Units	13.1%	16.6%	**3.9%**	11.1%	4.8%
20 to 49 Units	3.3%	3.9%	**0.2%**	2.7%	0.4%
50 or More Units	5.2%	6.2%	**0.8%**	4.3%	2.8%
Mobile Home or Trailer	7.9%	3.2%	**5.9%**	3.6%	5.5%
Boat, RV, Van, etc.	0.3%	0.1%	**0.1%**	0.0%	0.1%

Source: Claritas 2008 Estimates

Age of Structures

The median year that a structure was built in Mercer County was 1957. The dominant year that structures in Mercer County were built was 1939 or earlier. Mercer County's building stock is older than all benchmark areas except for Warren County (ref. Figure 10).

Figure 10: Years structures built

Median Year and Dominant Year Structures Built

	U.S.	Illinois	**Mercer Co.**	Rock Island Co.	Warren Co.
Median Year Built	1975	1966	1957	1959	1948
Dominant Year Built	1970 to 1979	1939 or Earlier	1939 or Earlier	1939 or Earlier	1939 or Earlier

Source: Claritas 2008 Estimates

Selected Data for Participating Jurisdictions

The following data covers selected demographics for jurisdictions in Mercer County which are participating in this mitigation plan.

Land Area and Population

The estimated population change between 2000 and 2008 in Mercer was not uniform. Some municipalities gained population while others lost population (ref. Figure 11).

Figure 11: Land Area

Land Area and Population

	Land Area (Sq Miles)	2000 Population*	2008 Population **
Aledo city	2.242	3,613	3,624
Alexis village	0.485	863	733
Joy village	0.42	373	331
Keithsburg city	2.579	714	726
Matherville village	0.392	772	852
New Boston city	0.94	632	658
North Henderson village	0.225	187	164
Seaton village	1.568	242	208
Sherrard village	0.419	694	585
Viola village	0.827	956	890
Windsor village	0.442	720	622

The 2008 population estimates do not take into account those individuals displaced by the June 2008 flood. As a result actual populations in some jurisdictions may be lower than the 2008 estimates.
* 2000 population data is from the U.S. Census Bureau 2000 Decennial Census
** 2008 population data is from Claritas 2008 estimates *Age of the Population*

Age of the Population

In general, villages and cities in Mercer County have older populations than the State of Illinois and the U.S. Most places have a lower proportion of the population under the age of 18, and a higher proportion of the population over the age of 65 than the state and nation (ref. Figure 12).

Figure 12: 2008 Estimated Percentage of Population Under 18 and Over 65

	Pct Under 18	Pct Over 65
U.S.	*24.42%*	*12.71%*
Illinois	*24.92%*	*12.16%*
Aledo city	20.01%	20.89%
Alexis village	22.37%	18.42%
Joy village	25.98%	14.50%
Keithsburg city	25.62%	17.49%
Matherville village	29.58%	10.80%
New Boston city	18.54%	18.54%
North Henderson village	21.95%	18.54%
Seaton village	28.37%	16.35%
Sherrard village	22.91%	13.50%
Viola village	21.80%	16.07%
Windsor village	18.65%	20.26%

Source: Claritas 2008 Estimates

Age of Structures

Most of the villages and cities in Mercer County have older building stock. All of the municipalities have structures which are generally older than state and national averages (ref. Figure 13).

Figure 13: Median Year and Dominant Year Structures Built

	Median Year Built	Dominant Year Built
U.S.	*1975*	*1970 to 1979*
Illinois	*1966*	*1939 or Earlier*
Aledo city	1954	1939 or Earlier
Alexis village	1938	1939 or Earlier
Joy village	1937	1939 or Earlier
Keithsburg city	1971	1939 or Earlier
Matherville village	1958	1939 or Earlier
New Boston city	1957	1939 or Earlier
North Henderson village	1931	1939 or Earlier
Seaton village	1928	1939 or Earlier
Sherrard village	1956	1939 or Earlier
Viola village	1952	1939 or Earlier
Windsor village	1957	1939 or Earlier

Source: Claritas 2008 Estimates

Mercer County Land Use and Development Trends

Mercer County, Illinois, located in West Central Illinois, is a primarily rural county encompassing 561 square miles. Sparsely populated, with a mere 30.2 persons per square mile, the primary land use for the county is agricultural land. The eight incorporated jurisdictions within the county encompass 10.54 square miles, which represents under 2% of the total land mass of the County.

Harvested agricultural land in Mercer County represents nearly 222,000 acres annually, or 347 square miles of the county land mass. The remaining land uses in the county include wetlands, rural residential property, lakes, ponds, streams, and recreational land. As part of the Mississippi Valley Watershed, over 8 square miles of Mercer County Land is within lakes, streams and pond.

The development trends of Mercer County, like many similar rural counties, have been predominately stagnant for the past several decades. The dominant year built of the county's housing stock, according to the Claritas 2008 Estimates, is 1939 or earlier, and the median year built is 1957, compared to the national median of 1975. As part of the Quad Cities MSA, significant economic development efforts are underway to market the county to serve the housing needs of the Quad Cities Metro Area.

In 2008, Mercer County issued eight new building permits. Commercial development over the past few years have slightly expand on the east side of Aledo, the County Seat, while a new residential development with a golf course project has been constructed on the west edge of Sherrard.

Major Employers in Mercer County

Address and contact information:

2106 SE 3rd Street
Aledo, IL 61231
Phone: 309-582-7695
Fax: 309-582-7690
Email: jsgarnr@illinois.edu

Mercer County Employers:	180+	
Mercer County Hospital	150+	http://www.mercerhospital.org
General Grind and Machine	150+	http://www.generalgrind.com/
Wal-Mart	100+	http://www.walmart.com
Mercer County Nursing Home	100+	http://mercerconursinghome.com/
Sherrard School District #200	100+	http://www.sherrard.us
Mercer County School District #203	50+	http://mercer.k12.il.us/westmer/
Aledo YMCA	50+	http://mercercountyymca.org
County of Mercer	50+	www.mercercountycourthouse.com
3-D Concrete, Inc.	25+	
Farmers State Bank of Western Illinois	25+	http://www.fsbwil.com/
The Shoppes at the Livermore and the Livermore Restaurant	25+	http://www.experiencethelivermore.com
Midwest Fiber Products, Inc.	25+	www.midwestfibreproducts.com
Meminger Manufacturing	25+	http://mmf-inc.com/
Essig-Welch, Inc	25+	http://www.essigs.com/
New Windsor Enterprises, Inc.	25+	
City of Aledo	25+	http://www.aledo-il.org/
Times Record Company	25+	http://www.aledotimesrecord.com/
Mercer Market	25+	

Planning Process

How the Plan Was Prepared

Preparation of the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan was facilitated by the University of Illinois Extension CAD's Program and developed through the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force.

July- organizing to plan

- This meeting dealt with the scheduling of all future meetings, determining who was missing from the table that still needed to be invited, explaining the importance of jurisdictional representation and public participation, discussions of how to promote meetings and future actions and a discussion about how the county will provide the local match (25%) required for the project.

August- Jurisdictional risk assessment and critical facilities identification

- This meeting covered the significant impact of historical data based on natural hazards. The group discussed the hazards provided by the Illinois Water Survey and then ranked the hazards for each participating jurisdiction. Plans were devised for first public meeting.

September- Public Engagement Plan (i.e. meetings, either review or plan, and survey distribution) and Hazard Mitigation Goals

- This meeting dealt with the public survey that needed to be distributed throughout the county. Also the group discussed the goals for the Hazard Mitigation Plan as well as the format for the upcoming public meeting.

October- Existing Plan reviews and Mitigation ideas by jurisdiction

- This meeting allowed the Task Force to work on creating objectives to go with their goals that had been established at a prior meeting. The group also discussed some potential projects and how they could each come up with project ideas for the different jurisdictions in the county.

November- Jurisdictional Priorities and Grid development, plan maintenance strategy

- The jurisdictional project grids were collected at this meeting. The group discussed the final county-wide project grid and accepted it. They also reviewed the county demographics that were provided to them.

The Planning Team

Mercer County received a planning grant through the Hazard Mitigation Grant Program to prepare this plan. Mercer County contracted through the University of Illinois Extension's CADS program to assist in the planning process and to coordinate the plan preparation and participation. Carrie McKillip, Extension Unit Educator, led development at the Staff level.

All communities in Mercer County were invited to participate in the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan. Following is a list of the communities.

Aledo, Alexis, Joy, Keithsburg, Matherville, New Boston, New Windsor, North Henderson, Seaton, Sherrard, Viola

Based upon the short timeline for Hazard Mitigation Planning in Mercer County, participation requirement for jurisdictional participation was kept at a minimum requirement. Each participating jurisdiction was required by the steering committee to attend at least one steering committee meeting.
The list of jurisdictional representatives is outlined below.

Mercer County:	Jennifer Hamerlinck
Aledo:	Mike Sponsler Dennis Litwiler
Alexis:	Jim Olson
Viola:	Kirk Doonan
Keithsburg:	Maxine Henry Terri Gibson
New Boston:	Brian Mills
Sherrard:	Terry Ayers
New Windsor:	Mike Peterson
Joy:	Adam Russell
Matherville:	Larry Adams
North Henderson:	
Seaton:	Kelly Wheeler

Figure 14: County Map

Public Participation

The importance of public participation in the planning process was recognized by the Task Force. Efforts to educate the public regarding creation of the plan and to provide opportunities for the public to have input on the plan were an integral part of the planning process. These efforts are discussed below.

Public Meetings were held in different locations throughout the county which allowed interested parties to view the risk assessments and jurisdictional projects and to discuss any ideas or concerns that they may have.

Representing a rural county without large media outlets, the Mercer County Hazard Mitigation utilized multiple methods to engage citizens of the county in the planning process. Press releases, public meeting, focus groups, and surveys were all used to gather public opinion and input. Throughout the process, steering committee members were also encouraged to explain and discuss the planning process with their friends and neighbors, and encourage their input.

Throughout the planning timeframe, multiple press releases have been sent out to area newspapers and radio stations explaining the process, promoting the public meetings, and encouraging survey participation.

In August and September of 2009, four public meetings were held throughout the county explaining the process, and encouraging public comment as to what could be done to permanently reduce the risk to life and property from natural disasters. The schedule for the meeting was as follows:

Wed. August 19, 2009	5:00-6:00	Sherrard
Wed. August 26, 2009	5:00-6:00	New Boston
Wed. September 2, 2009	5:00–6:00	Aledo
Wed. September 9, 2009	5:00-6:00	Keithsburg

The intent of scheduling three meetings at three separate location was to enable the greatest participation from all segments of the public. While attendance was small, discussion was lively at three locations, and significant input was gathered in this manner. (ref. public meeting minutes, Appendix F).

To ensure that diverse groups were also included in the process, eight focus groups were held over the course of two full days to gather input from the following sectors:

Ag and Natural Resources
Health and Human Services
Transportation
Utilities
Public Safety
Business and Development
Education

Community Survey

One element of public participation included in the Mercer County Hazard Mitigation Planning process was the utilization of a community survey. The survey (ref. Appendix C) asked households a variety of questions to determine their depth of knowledge regarding the risks to them and their community from natural hazards. Also included were opportunities for participants to share their ideas for reducing the impact of natural hazards in an open ended format.

The Mercer County Hazard Mitigation Steering Committee chose to distribute a community survey as a portion of their public participation process. Included in the survey were questions about a all of the natural hazards that may have a potential affect on Mercer County, and community knowledge of the proper steps to prepare for such disasters. Survey respondents were also given the opportunity to share ideas about on how to reduce the impact of natural disasters in Mercer County.

The survey was distributed in two separate ways. First, paper copies of the survey were distributed to all communities in City Halls, the Mercer County Courthouse, and selected businesses. Hard copies were also made available during Keithsburg Flood days for those directly impacted by the flood of 2008. In addition, an electronic version of the survey was linked to the Mercer County Extension Website, as well as the Mercer County Website, and Keithsburg website. Press releases were also sent out to all area media as to the locations and websites where the survey could be accessed. Steering committee members were also encouraged to send the online link to any of their contacts who resided in Mercer County.

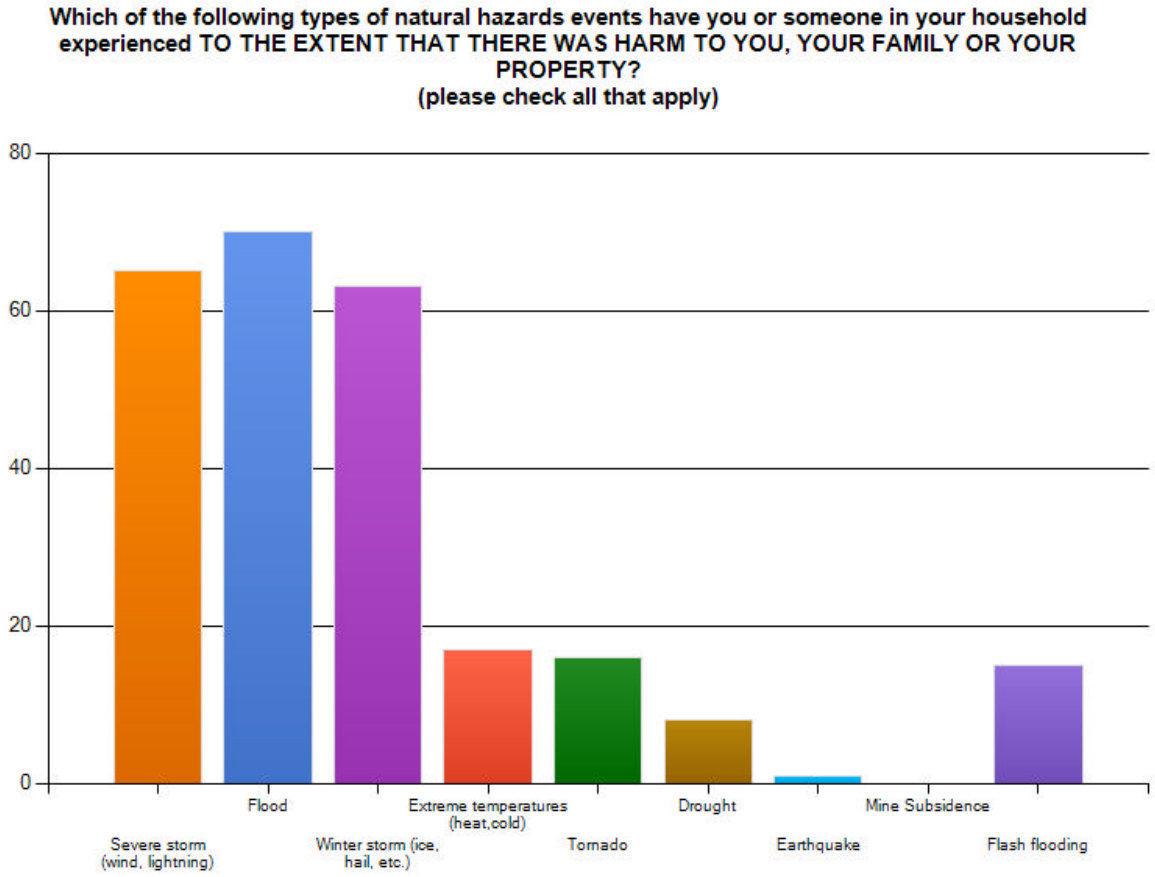
Through all sources of distribution, a total of two hundred and twenty seven surveys were collected and tabulated into the final survey results. This represents approximately 3.3 percent of households in Mercer County.

Mercer County Survey Results

Two hundred twenty surveys were collected from households in Mercer County. Over 80% of the respondent indicated that they lived in a community rather than in the country, with almost an equal balance between female (50.9%) and male (49.1%) respondents. Of the 211 respondents that indicated their age, the average and median age were both fifty-two, with 91.5 % indicating they owned their home. In addition, nearly seventy seven percent of respondents have lived in Mercer County for twenty years or more.

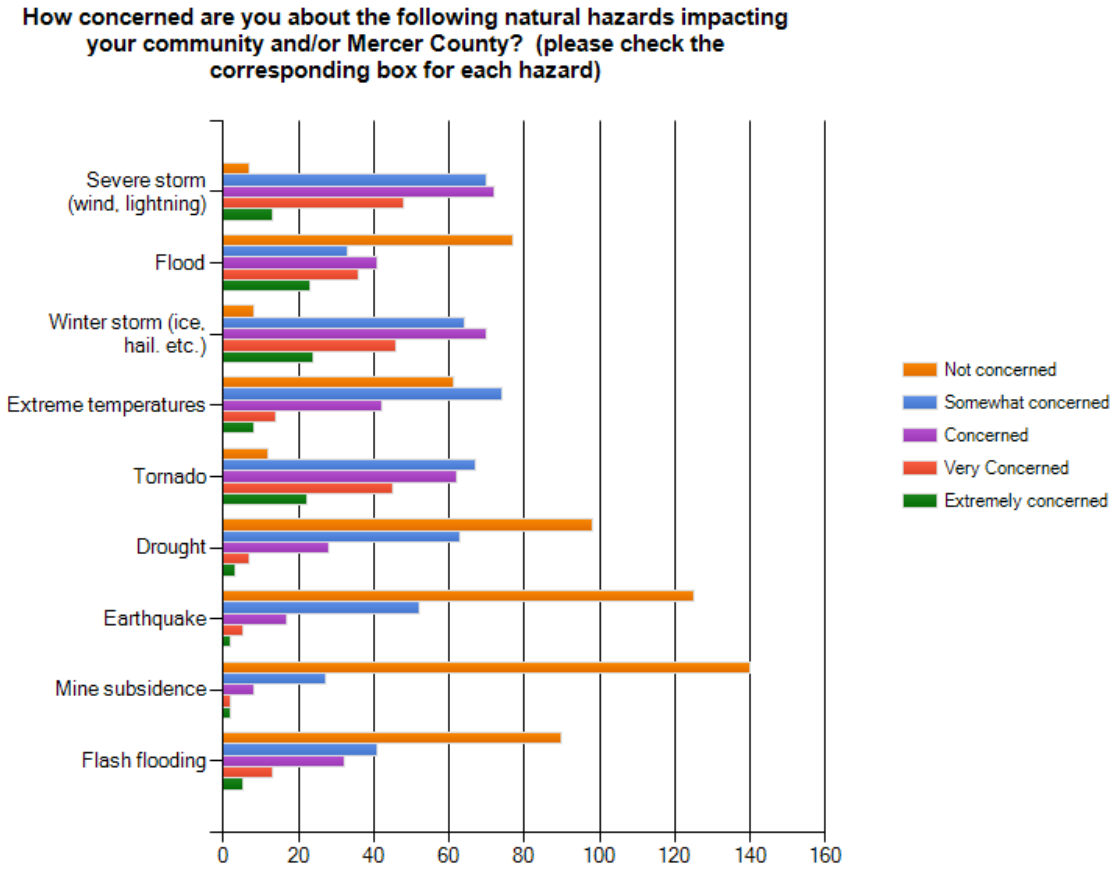
Despite the record flooding of 2008, nearly as many Mercer County Residents indicated damage from Winter Storms (ice, hail, etc.) and Severe Storms (wind, lightning).

Figure 15: Experienced Hazards in Mercer County



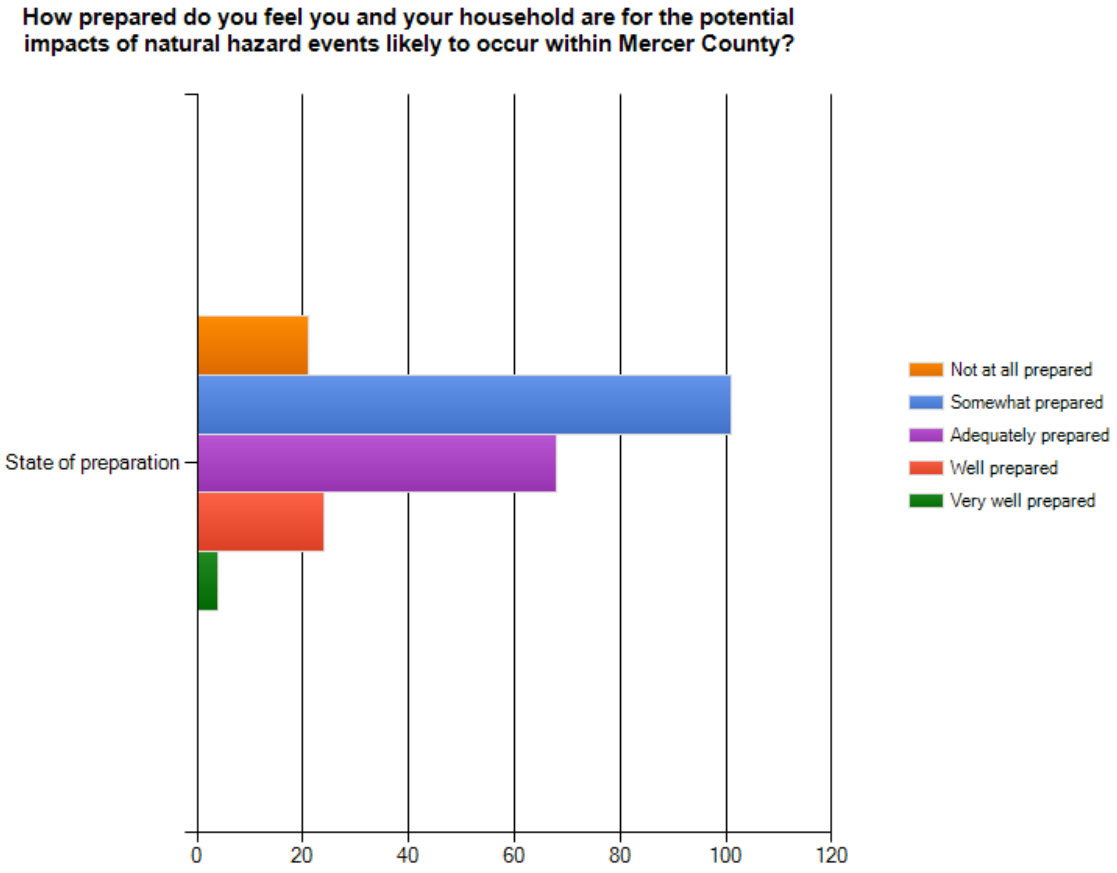
This is also consistent with the county risk assessment and historical data. When asked how concerned they were about the potential impact of natural disaster, respondents in general did not express high level of concerns for any natural disaster. The disasters for which respondents expressed the most concern (Extremely concerned) were nearly equal for flood, winter storms, and tornado. The graphic shows the extent of concern for each natural hazard.

Figure 16



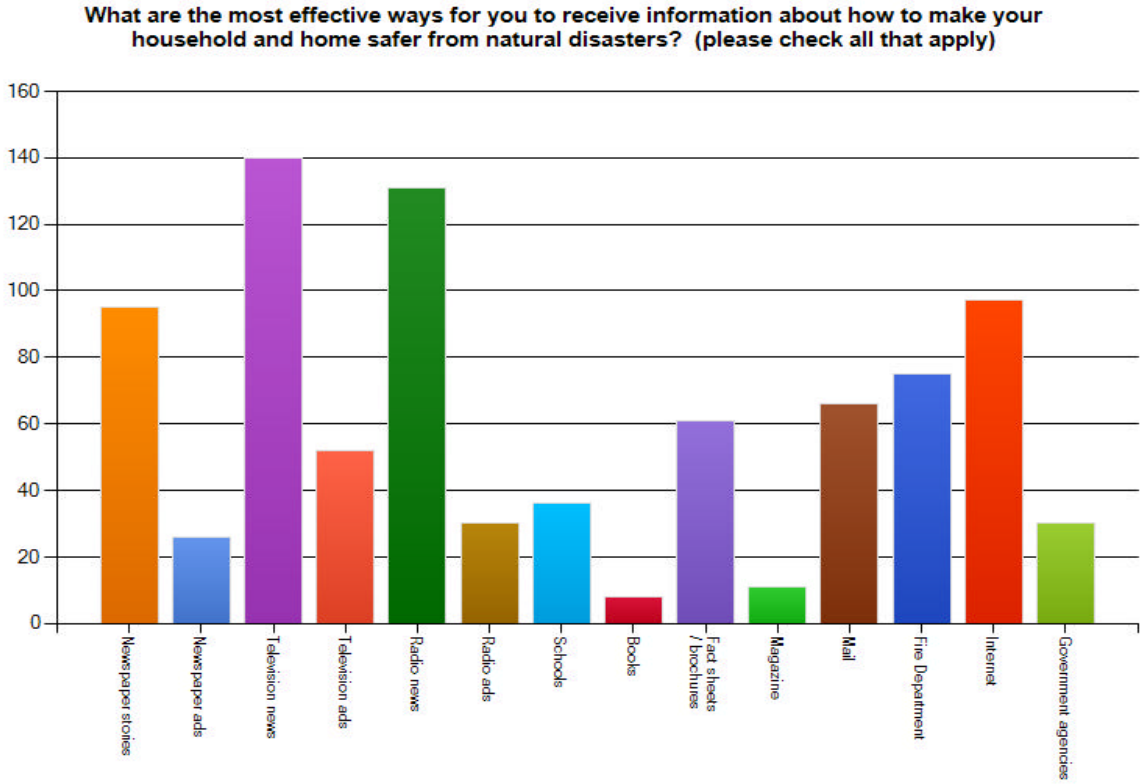
Of particular interest to the steering committee were the responses related to community preparedness and information dissemination. Many of the project areas identified for the county referred to education, communication, and public awareness. The survey results not only give a snapshot of where the county is currently regarding preparedness for disasters, but also how they prefer to receive information. The highest response rate for those participating indicated that they perceived their state of preparedness as "somewhat prepared" for natural disasters. A breakout of the state of preparedness response is listed below.

Figure 17



With the fewest number of respondents indicating that they feel “very well prepared”, community awareness and education on preparedness seems to be indicated as a need. To determine the best method way for citizens to receive information regarding how to make households and homes safer received a wide array of responses. A breakout of those responses is illustrated below.

Figure 18



While multiple methods of information delivery received relatively high rankings, traditional media such as Television, radio, and newspaper ranked as preferred methods of information distribution. Following closely behind this traditional media was the internet. While the average age of respondents most likely dictated the traditional media, 82% of respondents did indicate access to the internet, making this media a potential low cost method of educating the public. The diversity of responses will help inform groups as to the wide array of information sources citizens may turn to in receiving critical education regarding natural disaster.
In response to questions regarding respondents’ willingness to engage in personal mitigation efforts for their own homes, 62% indicated that the most effective incentive would be property tax breaks, while other high ranking incentives included both insurance premium discounts and low interest loans. In response to whether or not they would consider a buyout if their home were located in a designated high hazard area, only 13.7% indicated that they would not consider a buyout, while 33.3% said maybe, and the greatest percentage (53 %) indicated they would definitely consider a buyout.

A complete report of survey results, including respondents comments, is included in the attachment section.

Review and Incorporation of Existing Plans, Studies, Reports, and Technical Information

All known existing plans within Mercer County were gathered by U of I Extension Staff. At the first Task Force meeting the community representatives were given a Documents Form to be completed in consultation with the leaders in their community, providing them with a list of plans and other documents that should be considered during preparation of the plan. Natural hazards mitigation can be incorporated into existing plans and ordinances during updates. If a community does not have particular regulations that would promote hazard mitigation, such as building codes, these could be considered for adoption. Other documents could provide helpful information for assessing risks or determining appropriate mitigation projects. A combined listing of community documents is shown in Figure 19.

Figure 19: Existing Community Documents

	Mercer County	Aledo	Keithsburg	Matherville	New Boston	New Windsor	N. Henderson	Sherrard	Seaton	Viola
Document										
Comprehensive Plan	X	X								
Subdivision Ordinance		X								X
Zoning Ordinance	X	X	X					X		
Building Codes	X	X		X						
Land Use Plan	X	X						in progress		
Existing Land Use Map	X	X								
Flood Ordinance			X							
Flood Insurance Rate Map	X	X	X	X	X	X	X	X	X	X
Repetitive Flood Loss List			X							
Elevation Certificates for Bldgs										
Capital Improvement Plan		X								
Historic Preservation Ordinance										
Strategic Plan	X	X								
Storm Water Management Plan		X								
Hazard Mitigation Plan	X		X							
Emergency Mgt/Response Plan	X		X			X				
Drainage Ordinance										
Critical Facilities Map	X					in progress				
Hazard Vulnerability Analysis	X									
Infrastructure Map			X		X	X				
Topographic Map		X								
Other										
Community Website	X	X	X					X		X
Community Action	X									
Siren		X	X		X					
Weather Radio	X	X	X	X	X	X	X	X	X	X
Storm Spotters	X	X	X	X	X	X	X	X	X	X
Local Weather Station	X	X	X	X	X	X	X	X	X	X
Watershed Repairs										
Road Treatment										

Risk Assessment

The Mercer County Hazard Mitigation Steering Committee met on August 11, 2009. One of the key activities during this meeting was determine the risk by natural hazard for each jurisdiction in Mercer County. Steering Committee members reviewed the 2007 Illinois State Hazard Mitigation Plan, both for methodology and risk assessment for Mercer County. Additionally, historical data for weather related events in Mercer County was reviewed by jurisdiction.

The steering committee opted to adopt a simple approach of High, Moderate, or low risk as to each Natural Hazard. Scale of each risk by jurisdiction was done by consensus of the committee after reviewing historical data, potential magnitude of loss to both property and life, and local knowledge of the topography of the jurisdiction. During the discussion, the representative from the jurisdiction reflected specific knowledge to which the group deferred, especially in the categories' of drought and floods. Specifically mentioned by several jurisdictions was the water supply in a drought situation, and well as the rural areas that are dependent upon their own wells. Extreme temperature was rated high risk since the group was concerned about the aging population in Mercer County, and the effects of temperature extremes upon their health.

The ratings determined by the committee are listed in the Figure 20.

Figure 20: Overall Summary of Mercer County's Vulnerability to Natural Hazards

Jurisdiction	Severe Storm	Flooding	Winter Storm	Drought	Extreme Temperature	Earthquake	Tornado
Mercer County	High	High	High	High	High	Moderate	High
Aledo	High	Low	High	High	High	Moderate	High
Alexis	High	Low	High	Moderate	High	Moderate	High
Joy	High	Low	High	Moderate	High	Moderate	High
Keithsburg	High	High	High	Low	High	Moderate	High
Matherville	High	Moderate	High	Moderate	High	Moderate	High
New Boston	High	Low	High	Low	High	Moderate	High
New Windsor	High	Low	High	Moderate	High	Moderate	High
North Henderson	High	Low	High	Moderate	High	Moderate	High
Seaton	High	Low	High	Moderate	High	Moderate	High
Sherrard	High	Low	High	Moderate	High	Moderate	High
Viola	High	Low	High	Moderate	High	Moderate	High

Repetitive Loss Data

In accordance with FEMA Requirements, repetitive loss history within Mercer county was reviewed. The information, proved by the Illinois Emergency Management Agency, included all of the repetitive loss data as of April 30, 2009.

Of the Two Repetitive Loss Properties identified in Mercer County, neither were single family dwellings. Both of these properties were located within the jurisdiction of Keithsburg. One was a non-residential property, and the other was listed as an "other residential" property. These properties will remain vulnerable until they are mitigated to protect against the natural hazards that caused the losses. In Keithsburg, this is predominately flooding, and elevation or buyout project would be the most effective mitigation effort

2007 Illinois Natural Hazard Mitigation Plan Ratings for Mercer County

The historical occurrence of natural hazards is one of four main criteria that were used in the Illinois Natural Hazard Mitigation Plan to create hazard ratings for each county in the state. Based upon Historical frequency and probability, vulnerability, severity of impact, and a population criterion, the plan includes a rating for each type of natural hazard for each county. Ratings (from low to high) of low, guarded, elevated, high and severe were assigned based upon the aforementioned criteria. Mercer County was given the following ratings:

Figure 21: Ratings

Hazard Ratings for Mercer County Assigned in the 2007 Illinois Natural Hazard Mitigation Plan

Severe Storms	Floods	Severe Winter Storms	Drought	Extreme Heat	Earthquake	Tornado
Severe	Elevated	High	Guarded	Elevated	Guarded	Elevated

Source: 2007 Illinois Natural Hazard Mitigation Plan

The Steering Committee also reviewed historical data for weather related events in Mercer County by jurisdiction. The committee also opted to combine the Severe Storm and Tornado Risk in to one Category since the consensus was the mitigation efforts for these two weather related events would be the same. In the 2007 Illinois State Hazard Mitigation Plan, vulnerability levels are defined as a percentage of people potentially impacted. (ref. Figure 22)

Figure 22: Vulnerability

2) VULNERABILITY (percentage of people)

-The relationship of where people live in or near the hazard area
-The percentage of people that will be adversely affected should the hazard occur

Low (6)	Less than 10% of the total population of the jurisdiction
Medium (12)	10% to 25% of the total population of the jurisdiction
High (18)	More than 25% of the total population of the jurisdiction

Federal Disaster Declaration History Since 1981

All of the federally declared disasters that Mercer has been a part of since 1981 have been flood events.

FEMA DR #871 - Mercer County was one of thirty Illinois counties that were a part of this 1990 declaration. Heavy rain in May and June caused widespread flooding across the state.

FEMA DR #997 – This 1993 known as the Great Flood of 1993 prompted a disaster declaration encompassing thirty-nine Illinois counties.

FEMA DR #1368 – In April of 2001 heavy flooding devastated ten Illinois counties. In May a federal disaster was declared for the ten counties affected, including Mercer County. In all over $1.2 million in federal and state disaster assistance was extended to residents of the ten counties. Disaster housing grants accounted for $506,000 while the Small Business Administration (SBA) made $711,000 in low-interest in disaster loans. 6 families in Mercer County were approved for disaster housing grants which totaled $869.

FEMA DR#1771 - The flooding of June 2008 caused massive damage across the state. In total eighteen Illinois counties, including Henderson, were part of this disaster declaration. Individual assistance extended in this disaster is in excess of $15 million. Mercer County had 122 approved assistance applications totaling just over $480,000.

Severe Storms

(Source: Federal Emergency Management Agency)
"All thunderstorms are dangerous. Every thunderstorm produces lightning. In the United States an average of 300 people are injured and 80 people are killed each year by lightning. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms."

Facts about thunderstorms:

- Thunderstorms may occur singly, in clusters, or in lines.
- Some of the most severe occur when a single thunderstorm affects one location for an extended time.
- Thunderstorms typically produce heavy rain for a brief period, anywhere from 30 minutes to an hour.
- Warm, humid conditions are highly favorable for thunderstorm development.
- About 10% of thunderstorms are classified as severe – one that produces hail at least ¾ of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado.

Facts about lightning:

- Lightning's unpredictability increases the risk to individuals and property.
- Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- "Heat lightning" is actually lightning from a thunderstorm too far away for thunder to be heard.
- Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.

Facts about hail:

- As a thunderstorm grows, updrafts will push water droplets into a region of the atmosphere which is below the freezing temperature. These water droplets collide with other droplets just before freezing, which is why some hailstones can grow to several inches in diameter. The stronger the updraft associated with a thunderstorm, the larger the hail associated with the storm will be.

The National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center keeps a database of all severe weather events. With regard to severe storms the database keeps records of thunderstorm and high wind events, hail events, and tornados. According to the NCDC the Storm Events database keeps record of all thunderstorm and wind events, as well as hail events from 1955 forward. However, the lack of damage inducing thunderstorm and high wind events before 1997 and the lack of any events before 1970 call into question the completeness of this data. The tornado events are reportedly tracked back to 1950.

The following table displays all of the damage or injury inducing thunderstorm and high wind events in Mercer County that are listed in the NCDC Storm Events Database.

Figure 23: Thunderstorm and High Wind Events Causing Damage or Injury in Mercer County 1955-Present

Location or County	Date	Time	Recorded Windspeed	Deaths	Injuries	Property Damage	Crop Damage
Sterling & Kewanee	8/9/1995	5:10 PM	0 Kts.	0	0	7 K	0
MERCER (1)	4/6/1997	8:00 AM	54 Kts.	0	0	1.6 M	0
Keithsburg	6/21/1997	4:25 AM	60 Kts.	0	0	15 K	0
Matherville	7/19/1997	3:05 PM	60 Kts.	0	0	0	5 K
MERCER (1)	9/22/1997	11:00 AM	52 Kts.	0	1	15 K	0
Preemption	3/27/1998	7:10 PM	0 Kts.	0	0	3 K	0
Viola	7/27/1999	11:30 PM	0 Kts.	0	0	1 K	0
Aledo	6/13/2000	3:20 PM	0 Kts.	0	0	1 K	0
Countywide (1)	7/21/2003	11:34 PM	70 Kts.	0	0	10 M	3 M
New Windsor	5/20/2004	7:44 PM	61 Kts.	0	0	5K	10K
Countywide	6/8/2005	11:53 PM	57 Kts.	0	0	10 K	20 K
Aledo & Matherville & North Henderson	3/12/2006	7:18 PM	52 Kts.	0	0	22 K	0
Joy & Millersburg & Aledo & Matherville	4/13/2006	8:50 PM	70 Kts.	0	0	445 K	0
Griffin	7/21/2008	5:10 AM	61 Kts.	0	0	25 K	0

Source: National Climatic Data Center – Storm Events Database

Notes: (1) denotes that this storm event affected an area larger than, but including Mercer County

Not all of the damage displayed in the records with (1) necessarily occurred in Mercer County.

Figure 24:

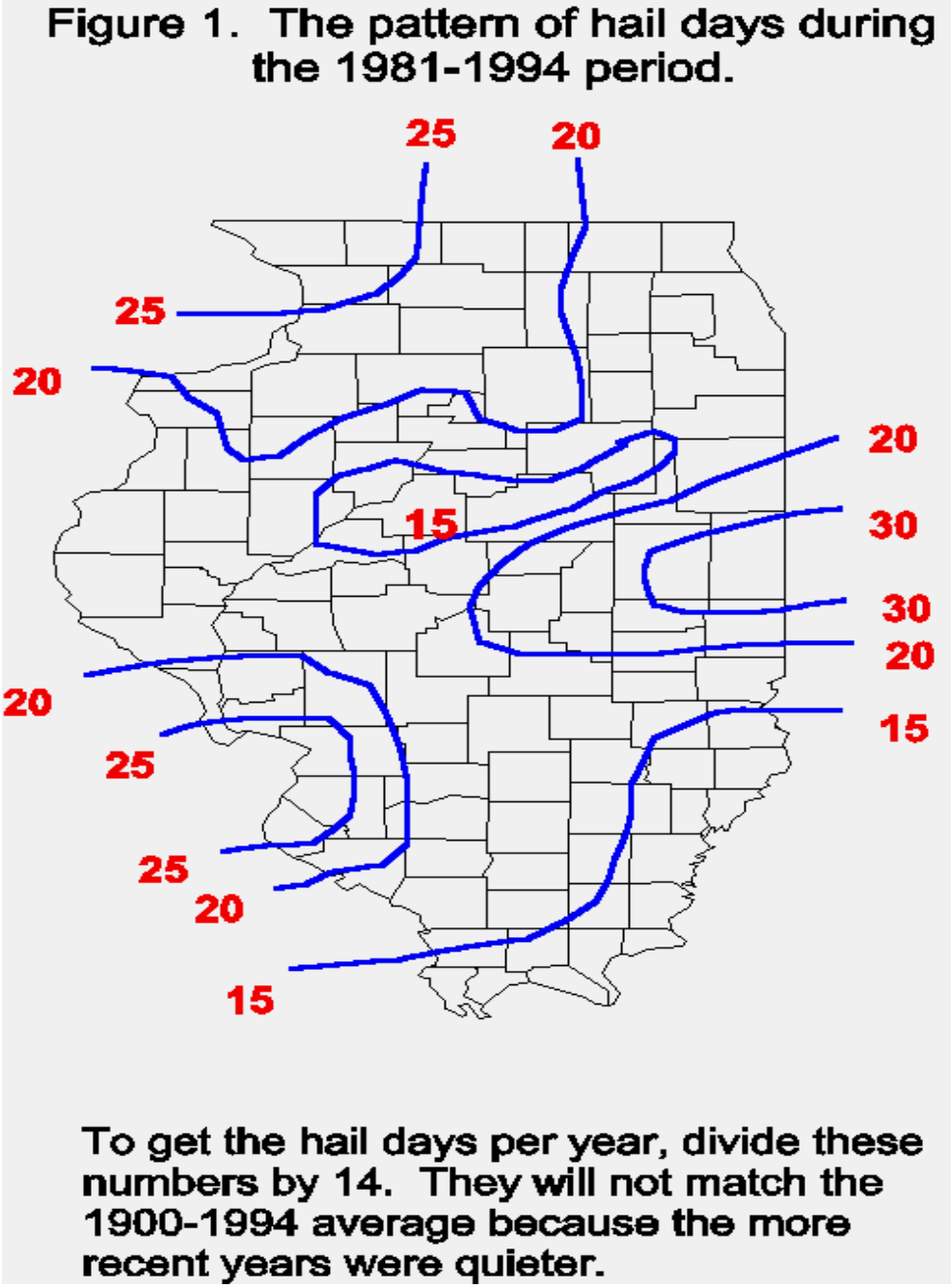


Figure 1. The pattern of hail days during the 1981-1994 period.
25
20
25
20
15
20
30
30
20
20
15
25
25
20
15
To get the hail days per year, divide these numbers by 14. They will not match the 1900-1994 average because the more recent years were quieter.

The following table displays the number of hail events in Mercer County that are listed in the NCDC Storm Events Database.

Figure 25: Hail Events by Jurisdiction

Number of Hail Events by Jurisdiction 1955-Present

Jurisdiction	Number of Hail Events
MERCER	20
North Henderson	5
Mount Carroll	1
Galva	1
Viola	6
Aleixs	1
Sherrard	4
Matherville	3
Aledo	3
New Boston	7
Joy	2
New Windsor	6
Keithsburg	2
Mannon	1
Seaton	1
Old Gilchrist	1
Griffin	1

Source: National Climatic Data Center – Storm Events Database

What is a tornado?

(Source: Federal Emergency Management Agency)

Tornadoes are nature's most violent storms. Spawned from powerful thunderstorms, tornadoes can cause fatalities and devastate a neighborhood in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk from this hazard.

Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible. Before a tornado hits, the wind may die down and the air may become very still. A cloud of debris can mark the location of a tornado even if a funnel is not visible. Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.

The following are facts about tornadoes:

- They may strike quickly, with little or no warning.
- They may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel.
- The average tornado moves southwest to northeast, but tornados have been known to move in any direction.
- The average forward speed of a tornado is 30 MPH, but may vary from stationary to 70 MPH.
- Waterspouts are tornadoes that form over water.
- Tornadoes are most frequently reported east of the Rocky Mountains during spring and summer months.
- Peak tornado season in the southern states is March through May; in the northern states, it is late spring through early summer.
- Tornadoes are most likely to occur between 3 p.m. and 9 p.m., but can occur at any time.

The National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center keeps a database of all severe weather events. With regard to severe storms the database keeps records of thunderstorm and high wind events, hail events, and tornados. According to the NCDC the Storm Events database keeps record of all thunderstorm and wind events, as well as hail events from 1955 forward. However, the lack of damage inducing thunderstorm and high wind events before 1997 and the lack of any recorded events before 1970 call into question the completeness of this data. The tornado events are reportedly tracked back to 1950.

The following table displays all of the damage or injury inducing tornado events in Mercer County that are listed in the NCDC Storm Events Database.

Figure 26: Tornados Causing Injuries or Property Damage 1950-Present

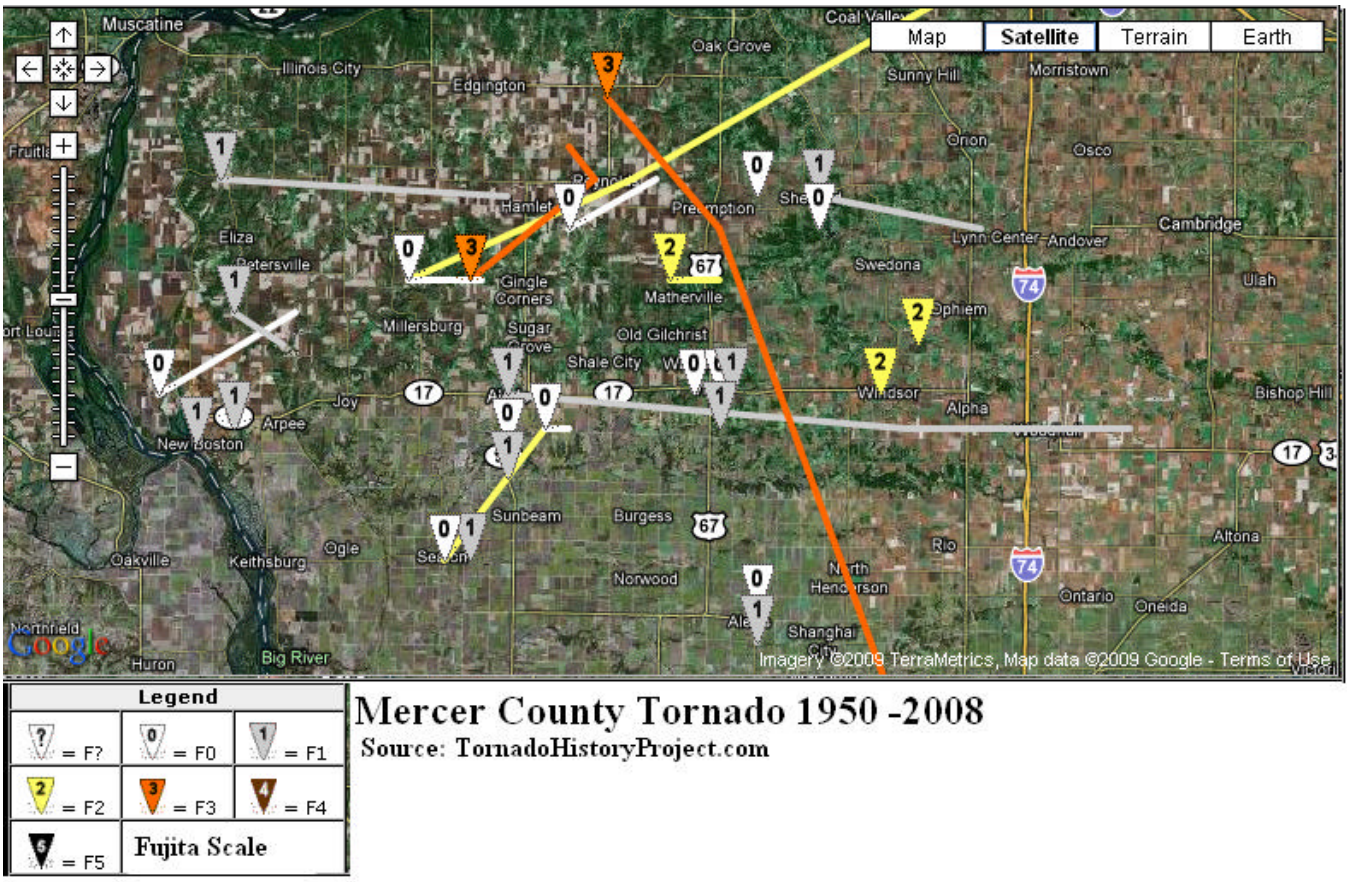
Location or County 1	Date	Time	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
MERCER	7/17/1952	5:00 PM	F1	0	0	3 K	0
MERCER	4/23/1965	11:45 PM	F1	0	1	275 K	0
MERCER	4/21/1973	5:43 PM	F2	0	0	2.5 M	0
MERCER	4/13/1974	7:00 PM	F2	0	1	28 K	0
MERCER	6/14/1974	3:08 PM	F3	0	1	0	0
MERCER	8/15/1978	7:00 PM	F3	0	0	250 K	0
MERCER	7/30/1987	5:00 PM	F1	0	0	25 K	0
Seaton	6/18/1998	4:10 PM	F2	0	0	110 K	0
New Boston	6/29/1998	2:40 PM	F1	0	0	5 K	0
Aledo	4/30/2003	5:42 PM	F1	0	0	500 K	0
Aledo	4/30/2003	5:57 PM	F0	0	0	50 K	0
Viola	4/30/2003	6:08 PM	F1	0	0	500 K	0
Viola	4/30/2003	6:11 PM	F0	0	0	250 K	0
Viola	4/30/2003	6:12 PM	F1	0	0	300 K	0
New Boston	5/10/2003	7:30 PM	F0	0	0	100 K	0
Millersburg	5/10/2003	7:45 PM	F0	0	0	100 K	0
Aledo	5/10/2003	7:55 PM	F0	0	0	50 K	0
Eliza	4/13/2006	8:33 PM	F1	0	0	15 K	0
Mannon	4/13/2006	8:57 PM	F1	0	0	50 K	0
Matherville	4/13/2006	9:07 PM	F2	0	0	30 K	0
North Henderson	4/13/2006	9:12 PM	F1	0	0	100 K	0

Source: National Climatic Data Center – Storm Events Database
Note: 1 - "MERCER" in all capital letters refers to an unspecified location within Henderson County

Information about tornado activity in Illinois is posted at the Illinois State Climatologist Web site http://www.isws.illinois.edu/atmos/statecli/. Information posted includes tornado climatology; tornado maps, statistics, research and links to other sites. Below are excerpts from the Illinois State Climatologist web site.

Below is a map showing tornado activity in Mercer County from the 1950's through 2008 which shows the areas that were affected, as well as the scale of the tornado (ref. Figure 27)

Figure 27: Mercer County Tornado Activity



Fujita Tornado Scale

Tornadoes were typically classified using the Fujita or F-scale, the higher the number the worse the damage. In recent years, the F-scale was changed to the EF-scale or "Enhanced Fujita"-scale. This was based on refinements to the original scale and is described in more detail by the NWS here and here. Below is the original scale.

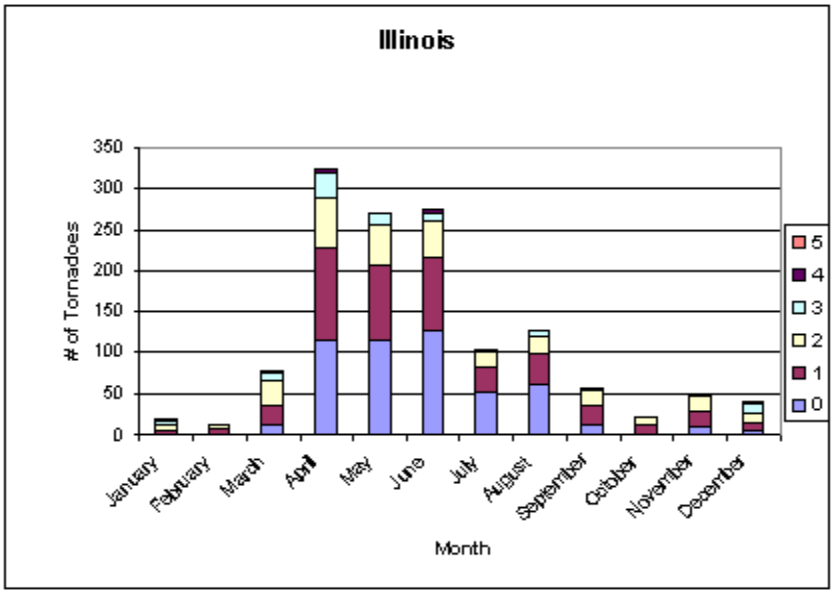
Figure 28: Original Fujita Tornado Scale

SCALE	WIND SPEEDS	TYPICAL DAMAGE

F-0	40-72 mph	**Light damage:** some damage to chimneys; tree branches broken; sign boards damaged.
F-1	73-112 mph	**Moderate damage:** peels off some roofing; mobile homes pushed off foundation; moving cars blown off road.
F-2	113-157 mph	**Considerable damage:** roofs torn off houses; mobile home demolished; large trees snapped or uprooted; cars lifted off ground.
F-3	158-205 mph	**Severe damage:** roofs and walls blown down; trains overturned; most trees uprooted; cars lifted and tossed.
F-4	207-260 mph	**Devastating damage:** well-constructed buildings leveled; cars tossed some distance;
F-5	261-318 mph	**Incredible damage:** massive destruction; car-size objects thrown as far as 100 meters; most buildings leveled and swept away; incredible phenomena will occur.

Historically, most tornadoes in Illinois have occurred in April through June.

Figure 29. Tornado F-Scale versus Month by F scale in Illinois



Winter Storms

What is a winter storm?

Winter storms in Mercer County consist of snow and ice and at times result in blizzard conditions. Winter storms can produce flooding, storm surge, closed highways, blocked roads, downed power lines and hypothermia.

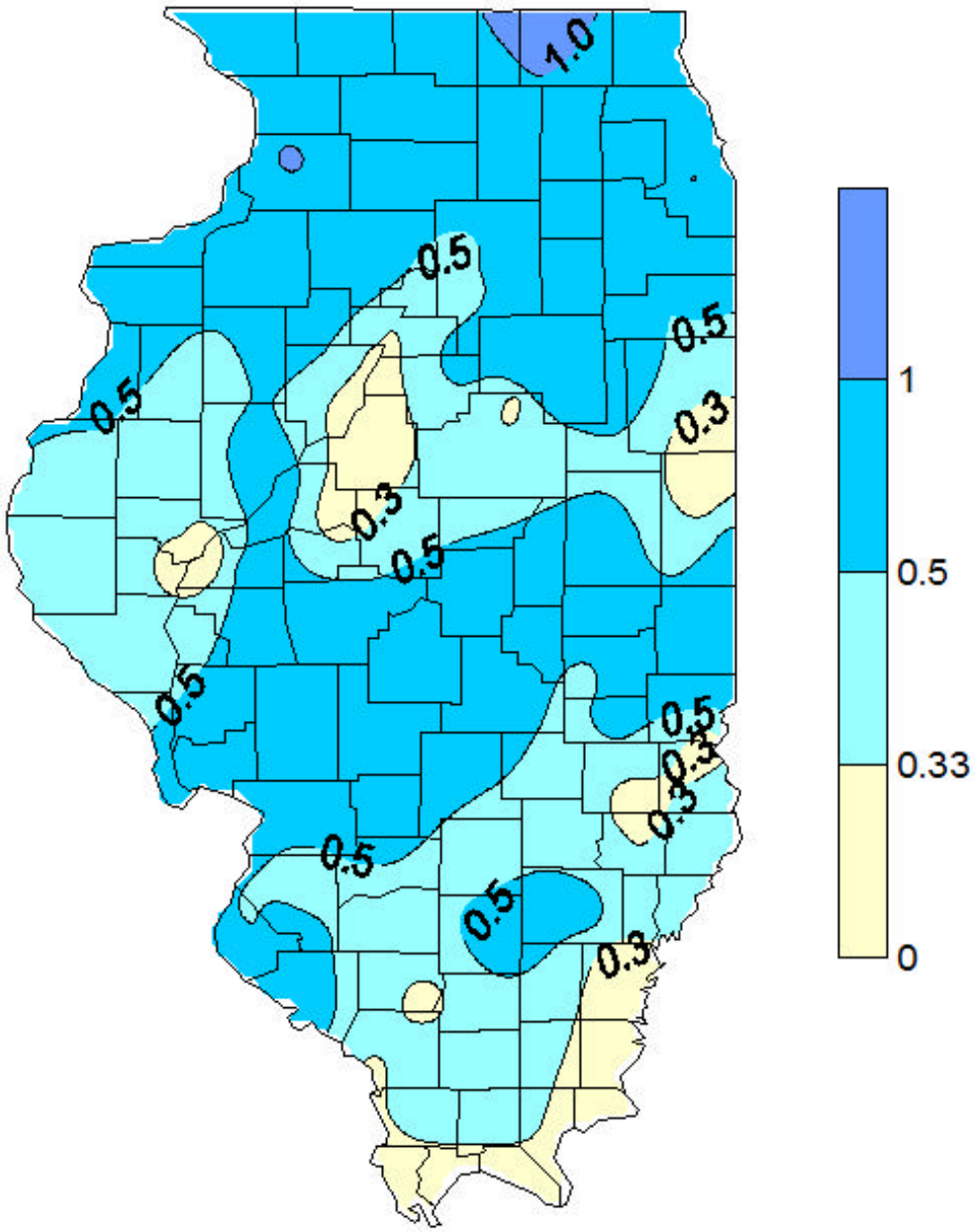
Snowfalls are generally measured in inches but at times have reached over one foot. Blowing snow reduces visibility and is the cause of many vehicle accidents.

- A heavy snowstorm is one that produces at least 6" of snow within 48 hours.
- A blizzard is a winter storm with sustained winds or frequent gusts of 35 mph or greater and considerable falling or blowing snow reducing visibility to less than ¼ mile for three hours or longer. Drifting is a major concern with roadways being blocked and buildings and driveways becoming inaccessible.
- Freezing rain and sleet create slippery roadways and sidewalks causing dangerous conditions and can weigh down tree limbs and power lines causing damage and power outages.
- Freezing rain is rain that freezes when it hits the ground, trees, power lines and buildings, creating a coating of ice.
- Sleet is rain that turns to ice pellets before reaching the ground and creates slippery conditions.

Severe Winter Storms

Winter storms in Illinois can be severe and cause extensive damage. Information about winter storms in Illinois can be found at the Illinois State Climatologist web site http://www.isws.illinois.edu/atmos/statecli/Winter/winter.htm. Figure 30 is a graphic from the web site showing the historical snowfall data.

Figure 30: Average Snowfall



Average number of days with 6 or more inches of snowfall per winter (1971-2000)

"0.33 days per winter" means one storm every 3 years, on average
"0.5 days per winter" means one storm every other year, on average

Severe Winter Storms

From 1995 through 2008 there were 84 snow or ice events in Mercer County or 6 per year. The following table displays the number of winter storms that have occurred in Mercer County since 1995.

Figure 31: Snow and Ice Events in Mercer County 1995 - Present

Date	Time	Type	Deaths	Injuries	Property Damage	Crop Damage
1/18/1995	6:00 PM	Heavy Snow	0	0	0	0
11/10/1995	4:00 AM	Snow/sleet/freezing Rain	0	0	0	0
11/27/1995	4:00 AM	Snow/sleet/freezing Rain	0	0	0	0
1/18/1996	4:30 AM	Winter Storm	0	0	0	0
1/26/1996	4:00 AM	Winter Storm	0	0	0	0
11/14/1996	6:00 AM	Winter Storm	0	0	0	0
12/27/1996	6:00 PM	Winter Storm	0	0	0	0
1/9/1997	4:00 AM	Winter Storm	0	0	0	0
1/15/1997	4:00 AM	Winter Storm	0	0	0	0
1/24/1997	4:00 AM	Winter Storm	0	0	0	0
2/3/1997	8:00 PM	Winter Storm	0	0	0	0
4/10/1997	6:00 AM	Heavy Snow	0	0	0	0
12/9/1997	5:00 PM	Heavy Snow	0	0	0	0
12/24/1997	11:00 AM	Heavy Snow	0	0	0	0
1/8/1998	10:00 AM	Winter Storm	0	0	0	0
3/8/1998	12:00 PM	Heavy Snow	0	0	0	0
12/30/1998	5:00 PM	Winter Storm	0	0	0	0
1/1/1999	5:17 AM	Winter Storm	0	0	0	0
1/18/1999	4:05 AM	Winter Storm	0	0	0	0
3/5/1999	3:00 PM	Winter Storm	0	0	0	0
3/8/1999	4:00 PM	Winter Storm	0	0	0	0
12/16/1999	7:00 PM	Winter Storm	0	0	0	0
12/19/1999	3:00 PM	Winter Storm	0	0	0	0
12/23/1999	2:00 PM	Winter Storm	0	0	0	0
1/3/2000	3:00 PM	Winter Storm	0	0	0	0
1/17/2000	8:00 AM	Winter Storm	0	0	0	0
1/19/2000	10:00 AM	Winter Storm	0	0	0	0
1/29/2000	3:00 PM	Winter Storm	0	0	0	0
2/17/2000	7:00 PM	Winter Storm	0	0	0	0
12/1/2000	2:00 AM	Snow	0	0	0	0
12/10/2000	10:00 PM	Winter Storm	0	0	0	0
12/13/2000	8:00 AM	Snow	0	0	0	0
12/15/2000	1:00 PM	Ice Storm	0	0	0	0
12/18/2000	4:00 AM	Snow/blowing Snow	0	0	0	0

12/20/2000	7:00 AM	Snow	0	0	0	0
12/28/2000	10:00 AM	Snow	0	0	0	0
1/13/2001	9:00 PM	Snow/freezing Rain	0	0	0	0
1/26/2001	2:00 AM	Snow/blowing Snow	0	0	0	0
1/28/2001	10:00 AM	Ice Storm	0	0	0	0
2/14/2001	5:00 AM	Freezing Rain	0	0	0	0
2/23/2001	10:30 PM	Freezing Rain	0	0	0	0
3/15/2001	12:00 AM	Snow	0	0	0	0
4/14/2001	5:00 PM	Snowmelt Flooding	0	0	0	0
1/30/2002	5:00 AM	Winter Storm	0	0	0	0
3/1/2002	5:00 PM	Winter Storm	0	0	0	0
2/14/2003	4:00 PM	Winter Storm	0	0	0	0
3/4/2003	1:00 PM	Winter Storm	0	0	0	0
1/5/2005	3:00 AM	Ice Storm	0	0	80K	0
12/8/2005	3:00 AM	Winter Weather/mix	0	0	0	0
2/15/2006	9:00 PM	Winter Weather	0	0	10K	0
3/21/2006	2:00 AM	Winter Weather	0	0	10K	0
12/1/2006	12:00 AM	Winter Storm	0	0	0	0
1/13/2007	1:00 PM	Winter Weather	0	0	0	0
1/20/2007	10:00 PM	Winter Weather	0	0	0	0
2/6/2007	5:15 AM	Winter Weather	0	0	0	0
2/12/2007	11:30 PM	Winter Storm	0	0	0	0
2/16/2007	4:00 PM	Winter Weather	0	0	0	0
2/24/2007	9:00 AM	Ice Storm	0	0	0	0
3/1/2007	5:30 PM	Winter Weather	0	0	0	0
12/1/2007	8:30 AM	Ice Storm	0	0	0	0
12/6/2007	3:00 PM	Winter Weather	0	0	0	0
12/10/2007	11:30 PM	Ice Storm	0	0	0	0
12/15/2007	4:00 AM	Winter Weather	0	0	0	0
12/22/2007	6:00 PM	Winter Storm	0	0	0	0
12/22/2007	6:00 PM	Winter Weather	0	0	0	0
12/28/2007	5:00 AM	Winter Weather	0	0	0	0
12/31/2007	10:00 AM	Winter Weather	0	0	0	0
1/21/2008	11:30 AM	Winter Weather	0	0	0	0
1/29/2008	12:30 PM	Winter Weather	0	0	0	0
1/31/2008	12:50 PM	Winter Weather	0	0	0	0
2/1/2008	12:00 AM	Winter Storm	0	0	0	0
2/1/2008	12:00 AM	Winter Weather	0	0	0	0
2/3/2008	3:00 PM	Winter Weather	0	0	0	0
2/5/2008	8:00 PM	Winter Storm	0	0	0	0
2/25/2008	6:00 PM	Winter Weather	0	0	0	0

2/28/2008	4:00 PM	Winter Weather	0	0	0	0
11/29/2008	11:30 PM	Winter Weather	0	0	0	0
12/3/2008	11:00 AM	Winter Weather	0	0	0	0
12/8/2008	8:50 AM	Winter Weather	0	0	0	0
12/16/2008	10:00 AM	Winter Weather	0	0	0	0
12/18/2008	7:00 PM	Ice Storm	0	0	0	0
12/24/2008	5:00 AM	Winter Weather	0	0	0	0
1/13/2009	9:30 PM	Heavy Snow	0	0	0	0

Source: National Climatic Data Center – Storm Events Database

Drought

What is drought?

(Source: Illinois State Climatologist Office)
"Drought is a complex physical and social phenomenon of widespread significance, and despite all the problems droughts have caused, drought has been difficult to define. There is no universally accepted definition because: 1) drought, unlike flood, is not a distinct event, and 2) drought is often the result of many complex factors acting on and interacting within the environment. Complicating the problem of drought is the fact that drought often has neither a distinct start nor end. It is usually recognizable only after a period of time and, because a drought may be interrupted by short spells of one or more wet months, its termination is difficult to recognize."

Drought is also a temporary feature of the climate of Illinois, and we know it occurs only when less than adequate precipitation exists for an extended period of time. Because of the complex nature of droughts, there are many definitions, often reflecting a specific area of concern of an individual, a city, or a region.

The most commonly used drought definitions are:

1. Meteorological or Climatological Drought – a period of well-below-average precipitation that spans from a few months to a few years.

2. Agricultural Drought – a period when soil moisture is inadequate to meet the demands for crops to initiate and sustain plant growth.

3. Hydrological Drought – a period of below-average stream flow and/or depleted reservoir storage.

How are droughts measured?
The Illinois State Climatologist Office website shows a method for estimating drought conditions on a state-wide basis.

Figure 32: Severity of Precipitation Drought Expressed as Percent of the State-wide Average Precipitation

Drought Duration	Moderate Drought	Severe Drought
3 months	45 to 60%	less than 45%
6 months	56 to 70%	less than 56%
12 months	70 to 80%	less than 70%
24 months	78 to 90%	less than 78%

Drought Cont.

According to the National Drought Mitigation Center there have been 82 reported impacts from droughts affecting Mercer County from 1970 to the present. These impacts fall into several categories. There were 37 agricultural impacts, 14 water/energy impacts, 5 environmental impacts, 4 social impacts, 1 fire impact and 20 other impacts. It should be noted that a single drought event can have multiple impacts which fall into different impact categories. Mercer County was affected in many including crop damage, drinking water issues, and barge traffic congestion.

Mercer County was one of several counties affected by the drought of 2005-06. This drought started in June of 2005 and continued through March of 2006. The drought affected Bureau, Carroll, Hancock, Henderson, Henry, Jo Daviess, McDonough, Mercer, Putnam, Rock Island, Stephenson, Warren, and Whiteside counties. In total the drought did $228.5 million in crop damage. The NCDC provides descriptions of this drought:

> "The drought that began back in June 2005 continued through December 2005 and into January 2006. Since the growing season was now over, the main impacts on the drought were hydrologic. A report on the hydrologic conditions is supplied by the service hydrologist. Stream flows began the month with most locations reporting near normal (25th to 74th percentile) conditions. A few locations reported above normal (76th to 90th percentile) conditions and a few locations reported below normal (10th to 24th percentile) conditions. From the 2nd through the 6th most locations reported below normal conditions, with a few locations reporting much below normal (less than 10th percentile) conditions and a few locations reporting near normal conditions. After the 6th most locations returned to the same conditions they experienced when the month began. Aside from some minor day to day fluctuations, these conditions persisted through the end of the month. December's precipitation was below normal. Total precipitation for the month was 1.26 inches, or 0.61 inches below normal and 67% of normal. The six-month precipitation total was 11.71 inches, or 7.05 inches below normal and 62% of normal. December was the eleventh consecutive month with below normal precipitation. During this eleven-month period total precipitation has been 21.85 inches, or 13.08 inches below normal and 63% of normal. According to the U.S. Drought Monitor maps (http://drought.unl.edu/dm/), the drought conditions for the HSA did not change much during the month. By the end of the month, the eastern two-thirds of the HSA were in the Extreme Drought (D3) category. The western one-third of the HSA was in the Severe Drought (D2) or Moderate Drought (D1) category. According to the NOAA/NWS Climate Prediction Center, parts of the HSA have been extremely dry over the past year. In the northwest Illinois climate division the yearly precipitation total for 2005 was in the lowest 1% of all annual precipitation totals for 1895 through 2005. In the east central Iowa climate division the total for 2005 was in the lowest 4% of all annual precipitation totals for the same time period. Conditions have also been dry, albeit not as severe, over the past three years. In the northwest Illinois climate division the three-year precipitation total for 2003 through 2005 was in the lowest 4% of all three-year precipitation totals for 1897 through 2005. In the east central Iowa climate division the total for 2003 through 2005 was in the lowest 10% of all three year precipitation totals for the same time period. "The drought that began back in June 2005 continued through March 2006 but shrunk considerably in size and scope by the start of April 2006. This shrinkage was due to a persistent wet pattern that had set up during March 2006 and continued into April 2006. Since the growing season had yet to begin, the drought was essentially hydrologic in nature. A report of the hydrologic conditions is supplied by the service hydrologist. River Conditions Monthly stream flows for March averaged near normal (25th to 75th percentile) to below normal (10th to 24th percentile). All basins averaged below normal except for the lower Cedar-Iowa River basins and the entire Rock River basin, which averaged near normal. Stream flows began the month with most locations reporting stream flows that were below normal (10th to 24th percentile) or much below normal (less than 10th percentile). A few locations reported near normal (25th to 75th percentile) conditions and one location reported a record low flow for the day. Stream flows gradually decreased until moderate rainfall fell on the 5th. On the 6th, stream flows began increasing in response to this rainfall. Stream flows then remained nearly steady or increased slightly through the 13th when most locations reported near normal conditions. Some locations reported below normal (10th to 24th percentile) flows while other locations reported above normal (76th to 90th percentile) flows. Stream flows then gradually decreased into the late parts of the month but then rose on the last day of the month. On the 30th most locations reported below normal conditions while some locations reported near or much below normal flows. Moderate rainfall on the 30th resulted in flow increases on the 31st. On that day, half of the locations reported below or much below normal flows and half of the locations reported near or above below normal flows. Source: U.S. Geological Survey, WaterWatch Web site (http://water.usgs.gov/waterwatch/). Drought According to the U.S. Drought Monitor maps, minimal changes in the drought situation occurred during the month. Severe drought conditions (D2) continued to cover much of the HSA with moderate drought conditions (D1) across northwestern portions of the HSA."

Extreme Temperatures

What is extreme heat?

Extreme heat is a combination of high temperatures and high humidity. Conditions of extreme heat are dangerous and can cause injury and death.

The Heat Index is apparent temperature or a measure of how it feels when temperature and humidity are combined. It is the result of biometeorological studies and takes into account body size, core and body surface temperatures, clothing, the skin's resistance to heat and moisture transfer away from the body. The Heat Index assumes an average-sized adult with clothing in the shade with a 5-mph wind. Being in the full sun or in an area with little air movement can increase the apparent temperature.

What makes extreme heat dangerous?

(Source: Illinois Climatologist Office-Illinois State Water Survey)
The body cools itself by sweating because the evaporation of moisture has a cooling effect. High humidity reduces this evaporation and hinders the body's effort to cool itself. The dew point temperature is a much more useful measure of the moisture content of the atmosphere than the commonly used relative humidity. During summer in Illinois, dew point temperatures in the 50s are generally comfortable. Most people begin to feel the humidity when dew point temperatures are in the 60s. Dew point temperatures in the 70s are rare and cause significant discomfort.

Effects of extreme heat.

Heat cramps**:** muscular pains and spasms due to heavy exertion. They usually involve the abdominal muscles or legs. It is generally thought that the loss of water from heavy sweating causes the cramps.

Heat exhaustion**:** occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to vital organs. This results in mild shock.

Heatstroke/Sunstroke**:** LIFE THREATENING. The victim's temperature control system stops working as the body quits producing sweat. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly.

Extreme Temperatures

The following Figure includes all the extreme temperature entries for Mercer County in the NCDC database. It should be noted that these temperature extremes affected an area larger than just Mercer County.

Figure 33: Temperature Extremes in Mercer County 1996-Present

Date	Time	Type	Deaths	Injuries
1/30/1996	8:00 PM	Extreme Cold	0	0
2/1/1996	12:00 AM	Extreme Cold	0	0
1/10/1997	4:00 AM	Extreme Windchill	0	1
1/17/1997	4:00 AM	Extreme Windchill	0	0
7/25/1997	4:00 AM	Excessive Heat	0	0
7/19/1999	4:00 AM	Excessive Heat	1	0
8/31/2000	4:21 AM	Excessive Heat	0	0
12/16/2000	2:00 PM	Extreme Windchill	0	0
12/21/2000	4:00 AM	Extreme Windchill	0	0
12/23/2000	10:00 PM	Extreme Windchill	0	0
2/2/2007	4:00 AM	Extreme Cold/wind Chill	0	0
1/14/2009	11:00 PM	Extreme Cold/wind Chill	0	0

Flood Hazard

The next section defining flood hazard is from the Illinois HMP starting on page III45.

Except for fire, the most common hazard in the United States is flooding with thousands occurring each year from oceans, rivers, lakes, small streams, gullies, creeks, culverts, dry streambeds or low-lying ground. The standard definition of a flood is "A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation or runoff of surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land". A simpler definition is too much water in the wrong place. Since water circulates from clouds to the soil to streams to rivers to the oceans and returns to the clouds, a scientific definition of a flood is an imbalance in the "hydrological system" with more water flowing through the system than the system can draw off.

Floods are not all alike:

Riverine Floods: Develop slowly, sometimes over a period of days or weeks.

Flash Floods: Develop quickly, sometimes in just a few minutes. Usually flash floods are the result of intense storms dropping large amounts of rain within a brief period.

Overland Floods: Occurs outside a defined river or stream (e.g. ponding in a low lying area).

Aquifer Flood: Water is expelled from a subterranean geologic formation to the surface causing flooding in the immediate area.

Subterranean Flood: Water floods into tunnels that are normally dry.

Snow melt filling rivers too quickly, heavy rainfall associated with slow-moving, low-pressure or frontal storm systems or storm surge create excess water. This water accumulates and overflows onto adjacent lands not normally covered by water. These floods can occur any time of the year, any time of the day or night and in any part of the country. Flooding can be local, impacting a neighborhood or community, or very large, affecting entire river basins and multiple states. The

severity of floods is determined by the amount of rainfall or other water source, duration, topography, ground cover, frozen soil, wet or saturated soil that can't hold any more water, full reservoirs, high river or stream levels, ice-covered rivers or urbanization (lots of buildings, parking lots and roads). The majority of scientists believe that global warming causes extremes in weather that have increased flooding. Human activity influences the frequency and severity of floods.

HAZUS Flood Hazard Analyses

The Federal Emergency Management Agency (FEMA) has developed and supports the use of HAZUS-MH methodology (http://www.fema.gov/plan/prevent/hazus) which uses Geographic Information Systems (GIS) tools and fiscal data to assess risk in terms of potential losses for a given flood event or other natural disaster scenario. This analysis helps to identify potential impacts of natural hazards for planning and mitigation. Flood Insurance Rate Maps (FIRMs) show the expected extent of flooding inundation. However, the risk exposure is a combination of the extent and depth of flooding combined with social and economic impacts. The HAZUS analyses conducted for Mercer County combines the computational power of HAZUS-MH with updated information for critical facilities and flood hazards to provide a solid, consistent framework to quantify the county's risk. The information generated can be used for planning mitigation efforts in order to reduce risk and for planning emergency response. Furthermore, the objective HAZUS-MH output will provide a baseline for evaluating success in reducing natural hazard risk exposure when conducting future assessments.

The HAZUS-MH assessment is highly data dependent; the accuracy of the analyses depends on a number of important datasets including critical facilities and general building stock inventories. Use of the national datasets is considered a Level 1 HAZUS-MH analysis. The Mercer County HAZUS work included an update of the Critical Facilities database and use of updated flood data for the Mississippi River. The HAZUS analysis was performed to investigate impact of the 1% annual chance flood (a.k.a. the 100-year flood).

The Mississippi River along the western border of Mercer County presents the county's greatest flood hazard. Mississippi River flood elevations are published in the January 2004 Upper Mississippi River System Flow Frequency Study (UMRSFFS) (USACE, 2004). The UMRSFFS was developed by five Corps of Engineer Districts (St. Paul, Rock Island, Omaha, Kansas City, St. Louis) and coordinated through representatives from seven federal agencies and seven states. In the HAZUS analyses for flooding from the Mississippi River, a flood depth grid was manually generated and then input to HAZUS-MH for analysis. The flood depth grid was created using 1% annual chance flood elevations at cross sections from the 2004 U.S. Army Corps of Engineers (USACE) Upper Mississippi River Flow Frequency Study (UMRSFFS). The elevations at cross sections were made into a grid, and ground elevations were subtracted from this grid, creating a flood depth grid. The ground elevations were derived from topographic information supplied by the USACE specifically for their Mississippi River study.

For areas outside of the Mississippi River flood plain, HAZUS-MH generated the flood depth grid for a 1% annual chance flood for streams draining 10 square miles or more, based on the United States Geological Survey (USGS) 1/3 ArcSecond National Elevation Dataset (NED), or 10 meter Digital Elevation Model (DEM).

Critical facility data are an example of site-specific information used in HAZUS-MH for analysis. Critical facility data include schools, medical care facilities, emergency operation centers, police stations, and fire stations. The HAZUS-MH MR3 database was updated using community feedback from meetings, updated database information from HAZUS-MH MR4, and the National Geospatial-Intelligence Agency dataset. Locations of these facilities were confirmed using community feedback and Internet mapping services such as Google Maps.

The default HAZUS-MH MR4 General Building Stock (GBS) database used in the analysis includes residential, commercial, industrial, agricultural, religious, government, and educational buildings. Default databases in HAZUS include square footage by occupancy, building count by occupancy, and general occupancy mapping. These data for residential structures are derived from the Census 2000. Data for non-residential structures are derived from Dun & Bradstreet (D&B). Information in the default HAZUS-MH database was adjusted for regional differences using information from three reports from the Department of Energy (DOE). Characteristics such as number and size of garages, type of foundation, and number of stories are modified by region. U.S. Census Bureau data that are publically distributed do not include specific housing information; rather, the data provided are aggregated to the census tract (which has about 4000 people), thus reducing the scale and resolution of flood damage estimates which are building specific.

Loss estimates from HAZUS-MH are based on both site-specific analysis as well as aggregate analysis. Aggregate loss estimates, including general building stock analysis, are based on the assumption that structures are evenly distributed across census blocks. It is possible to have underestimates of damage in some areas as well as overestimates of damage in other areas. These damage estimates are more reliable over larger areas than at the census block level. This analysis is meant to assess the risk of flood hazard at the county level in order to serve as a planning aid. Performing a flood analysis at the census block level with small numbers of buildings makes damage analysis estimates sensitive to rounding errors.

Damages to aggregate building stock are based upon regional models that categorize each building into a structural class. It is assumed that each structural class will respond in a similar way to specific flooding depths. Loss estimates for aggregate structural losses need to be viewed as averages for a group of similar buildings rather than as exact estimates to individual structures

The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software, which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific flood.

Results of the HAZUS-MH flood analyses are presented in the following tables.

Essential Facilities List

Figure 32 identifies the essential facilities that were used for the analysis. A complete list of the essential facilities is included as Appendix B. A map of all the essential facilities is included as Figure 41.

Figure 34: Essential Facilities List

Facility	Number of Facilities
Medical Care Facilities	1
Emergency Centers	1
Fire Stations	11
Police Stations	9
Schools	12

Essential Facilities Damage

No essential facilities were flooded in the analysis.

General Building Stock

HAZUS estimates that there are 9,466 buildings in Mercer County, which have an aggregate total replacement value of 1,104 million dollars (2006 dollars). Figure 34 and Figure 35 present the relative distribution of the replacement value with respect to the general occupancies for Mercer County and by the 1% Annual Chance Flood Scenario, respectively.

Figure 35: Building Exposure by Occupancy Type for Mercer County

Occupancy	Exposure ($1000)	Percent of Total
Residential	874,354	79.2%
Commercial	115,655	10.5%
Industrial	35,674	3.20%
Agricultural	30,614	2.80%
Religion	25,451	2.30%
Government	8,850	0.80%
Education	13,184	1.20%
Total	**1,103,782**	**100.00%**

Figure 36: Building Exposure by Occupancy Type for the 1% Annual Chance Flood Scenario

Occupancy	Exposure ($1000)	Percent of Total
Residential	169,389	83.5 %
Commercial	15,612	7.70 %
Industrial	3,937	1.90 %
Agricultural	10,511	5.20%
Religion	2,066	1.00%
Government	1,292	0.60%
Education	0	0.00%
Total	**202,807**	**100.00%**

General Building Stock Damage

HAZUS estimates that about 32 buildings will be at least moderately damaged. This is more than 3% of the total number of buildings in the scenario. An estimated 19 buildings will be completely destroyed. Figure 37 below summarizes the expected damage by general occupancy for the buildings in Mercer County.

Figure 37: Expected Building Damage by Occupancy

	1- 10		11- 20		21- 30		31- 40		41- 50		Substantially	
Occupancy	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**	**Count**	**(%)**
Agriculture	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Commercial	0	0.00	1	100.00	0	0.00	0	0.00	0	0.00	0	0.00
Education	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Government	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Industrial	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Religion	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Residential	0	0.00	0	0.00	0	0.00	0	0.00	12	38.71	19	61.29
Total	**0**		**1**		**0**		**0**		**12**		**19**	

Building-Related Losses

The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents.

The total building-related losses were approximately 23.17 million dollars. Figure 38 below provides a summary of the losses associated with building damages.

Figure 38: Building-Related Economic Loss Estimates

(Millions of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
Building Loss						
	Building	9.69	0.67	0.77	1.04	12.17
	Content	5.01	2.17	1.31	1.94	10.43
	Inventory	0.00	0.02	0.28	0.27	0.57
	Subtotal	**14.70**	**2.86**	**2.36**	**3.25**	**23.17**

Shelter Requirements

HAZUS estimates the number of households that are expected to be displaced from their homes due to the flood and the associated potential evacuation. HAZUS also estimates the number of displaced people that will require accommodations in temporary public shelters. The model estimates 170 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 49 people (out of a total population of 16,957) will seek temporary shelter in public shelters.

Debris Generation

HAZUS estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories: 1) Finishes (dry wall, insulation, etc.), 2) Structural (wood, brick, etc.) and 3) Foundations (concrete slab, concrete block, rebar, etc.). This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 4,260 tons of debris will be generated. Of the total amount, Finishes comprises 29% of the total, and Structure comprises 39% of the total. If the debris tonnage is converted into an estimated number of truckloads, it will require 170 truckloads (@25 tons/truck) to remove the debris generated by the flood.

Bibliography:

Upper Mississippi River System Flow Frequency Study Final Report. January 2004, U.S. Army Corps of Engineers, Rock Island.

Natural Hazards –Probability and Assessing Vulnerability

Mercer County, Illinois is a risk for multiple types of natural hazards, including floods, severe storms,tornados, severe winter storms, extreme temperature days, earthquake and drought. While natural hazards are unpredictable by nature, an analysis of historical data can provide insight as to the likelihood of those events occurring in the future. In addition, assessing the damage to building related to those events in a critical part of the planning process. The probability and vulnerability for flooding is included in the HAZUS Analysis.

The remaining Natural Hazards are assesses for probability below. Methodology for the probability analysis is tabulating the number of past events and dividing by the number of years the data covers. Data is available for different types of natural hazards over a varying number of years so for each type of natural hazard, a separate analysis is required.

Figure 39: Mercer County, Illinois Natural Hazard Probability

Hazard	Extreme Temperature	Severe Storm/ Hail	Drought	Earthquake	Winter Storm/Ice	Tornados
Number of Events*	12	79	82	0	84	21
Years of Data	13	54	38	54	14	59
Annual Probability	92%	100%+	100%+	0%+	100%+	35.6%

*Source: National Climate Data Center –Storm Events Database

As can be seen from the table, while earthquakes remain a low (but possible) risk for Mercer County, nearly every other natural hazard that affects the area has a high likelihood of occurrence. While these events are almost guaranteed to occur, their magnitude directly relates to the severity of vulnerability. While all extreme temperature days pose risk to life (either heat or cold), a small percentage of snow and ice events pose a widespread threat to life and property. According to the Illinois State Water Survey Map, the Mercer County only experiences a snow event of 6 inches or more on average every other year.

Drought, while common on a short term basis, varies in its impact. Of the 82 events cited above, only 14 had a significant water/ energy impact, which represents the greatest threat to life and property, through shortages of potable water and water available to fight fires. Of those 82, however, 37 did have an agricultural impact, which represents one of the largest industries in Mercer County. The economic impacts of these events are significant.

The number of severe storms/tornados/hail that has directly caused risk to life and property is more difficult to totally assess, since many small damages go unreported. There have been 21 documented tornados in Mercer County since 1950 that have had property damage estimates ranging from $1,000 to $10,000,000 in property damage. Because of the added risk to life presented by tornados, the vulnerability should be considered high. In addition, 14 Thunderstorms and high wind events have recording property damage since 1955, representing a 25.9% probability of such an event occurring in Mercer County in any given year.

Mercer County has had no documented experience with earthquakes, but there always exists a possibility, however remote, that significant damage could be experienced from earthquakes.

Potential Loss Estimates

Two of the above natural hazards, extreme temperature and drought, have little to no impact on buildings in the county. A comprehensive analysis of the potential losses of flooding is included in the HAZUS analysis. To maintain consistency, total property exposure in the county is retrieved from the HAZUS data, which estimates there are 9,466 buildings in Mercer County, which represents a replacement cost of $1,103,782,000. With these figures as a base, below are calculated loss estimates by type of event.

Severe Storms/Tornado

Severe storms present a risk to life and property from the presence of strong winds, lightening and hail. Additionally, in severe wind situations, damage to real property (i.e. Buildings) can occur directly from the wind and flying debris. For estimation purposes, if one third of the county was affected by a severe storm event, and 2% of the buildings sustained damage, a loss estimate could be calculated as follows:

$1,103,782,000**(replace value of buildings) X .33(33% of the county) X .02 (2% of buildings affected) =$7,284,961 (Replacement Value of buildings exposed to damage)**

The potential loss from tornados is often more severe in damage, but on a smaller scale geographically. If a tornado affected 10% of the land area of the county(assuming equal dispersion of buildings on land), and in that 10% area 50% of the buildings were damaged at 75% of value, a potential loss could be estimated as follows:

$1,103,782,000**(replace value of buildings) X .1 (10% of County) X .5 (50% of Buildings) X .75 (75% Damage to Buildings) = $41'391,825 Damage Estimate**

Regardless of building damage, the potential of damage to the electrical supply infrastructure is a primary concern during a severe storm event. In addition to potential damage from wind, lightening and falling trees, lives and businesses can be disrupted for significant periods of time due to storm damage.

Winter Storms

Severe winter storms have the potential to paralyze a community, from power outages, immobilization, and potential vehicle accidents. Mercer County has experienced several ice storms in recent years that have left significant portions of the county without power for significant periods of time. Mercer County does, however, experience on average 6 winter storms per year. Since 1995, property damage estimates from winter storms have totaled only $100,000 from three separate events. The bulk of this damage, $80,000 was recorded for a severe ice storm that occurred in the early morning hours January 5, 2005. If an average were taken of the average property damage from the Winter Storms since 1995, and average property loss assessment could be calculated as follows:

$100,000 (total reported property loss)/84 (# of winter storms)= $1190 (average loss)
Additional expenses for winter storms include snow removal, road treatment, labor hours and other public expenditures related to severe winter storms.

Figure 40: Mercer County Shelters

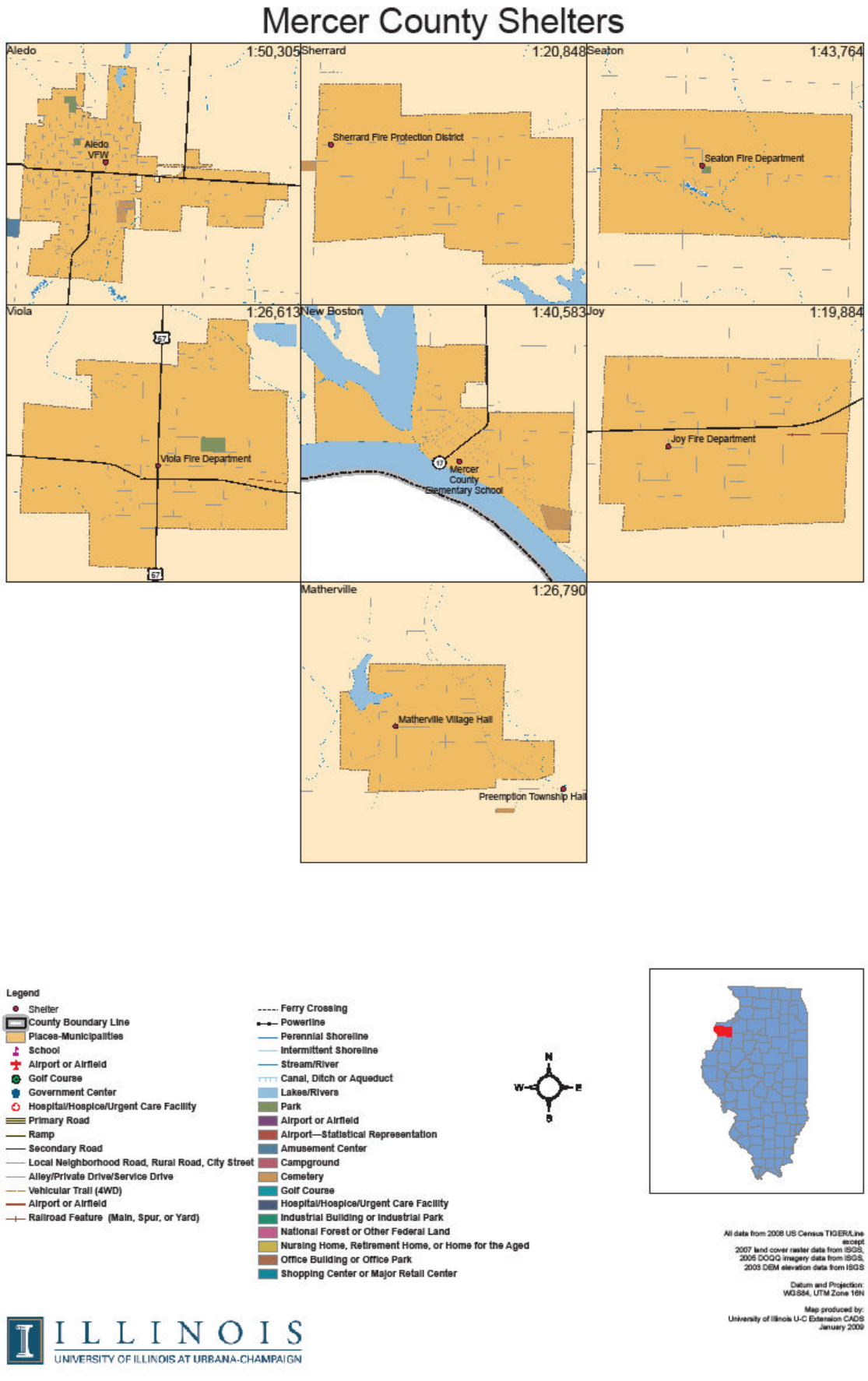


Figure 41: Facilities of Local Importance

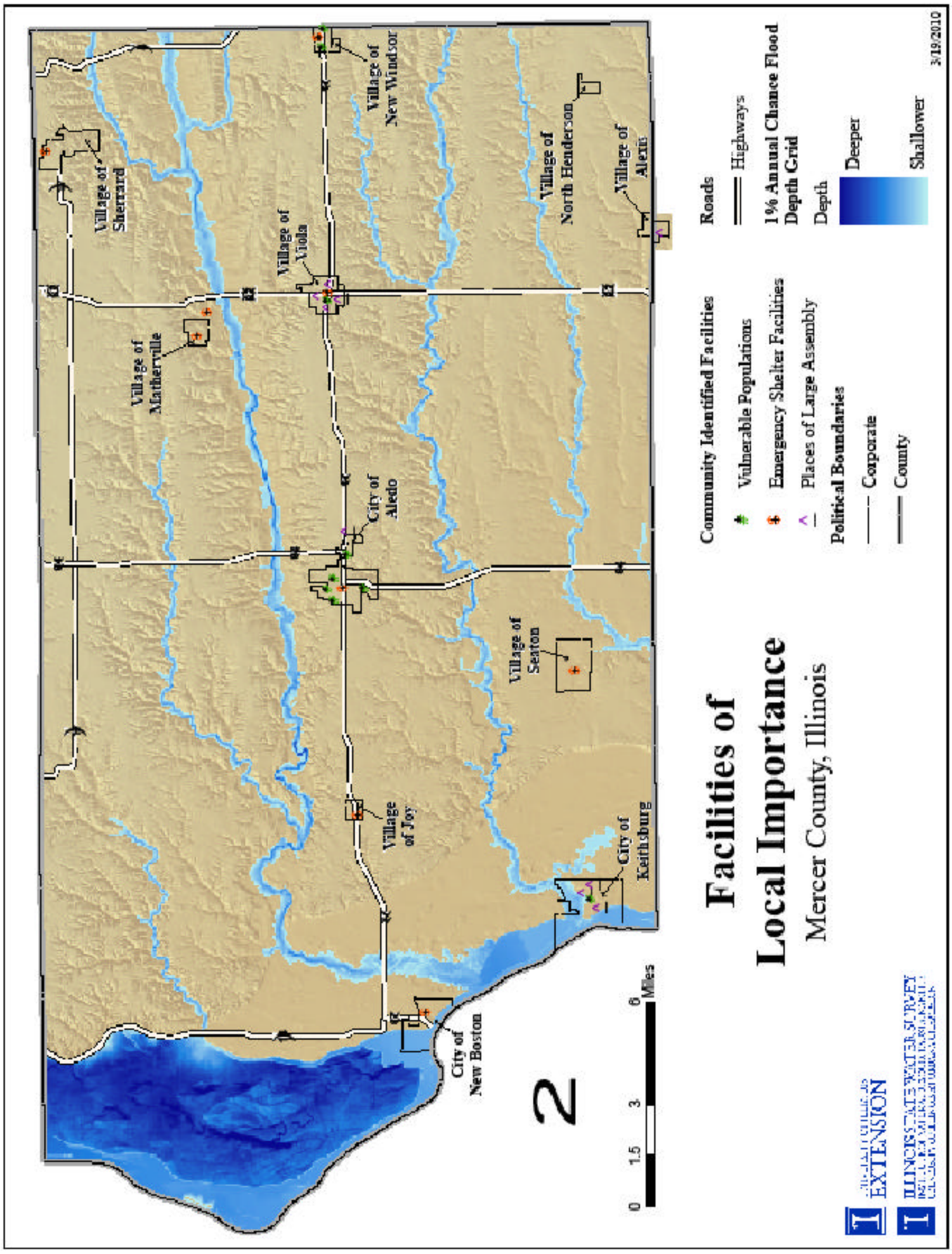


Figure 42: Essential Facilities

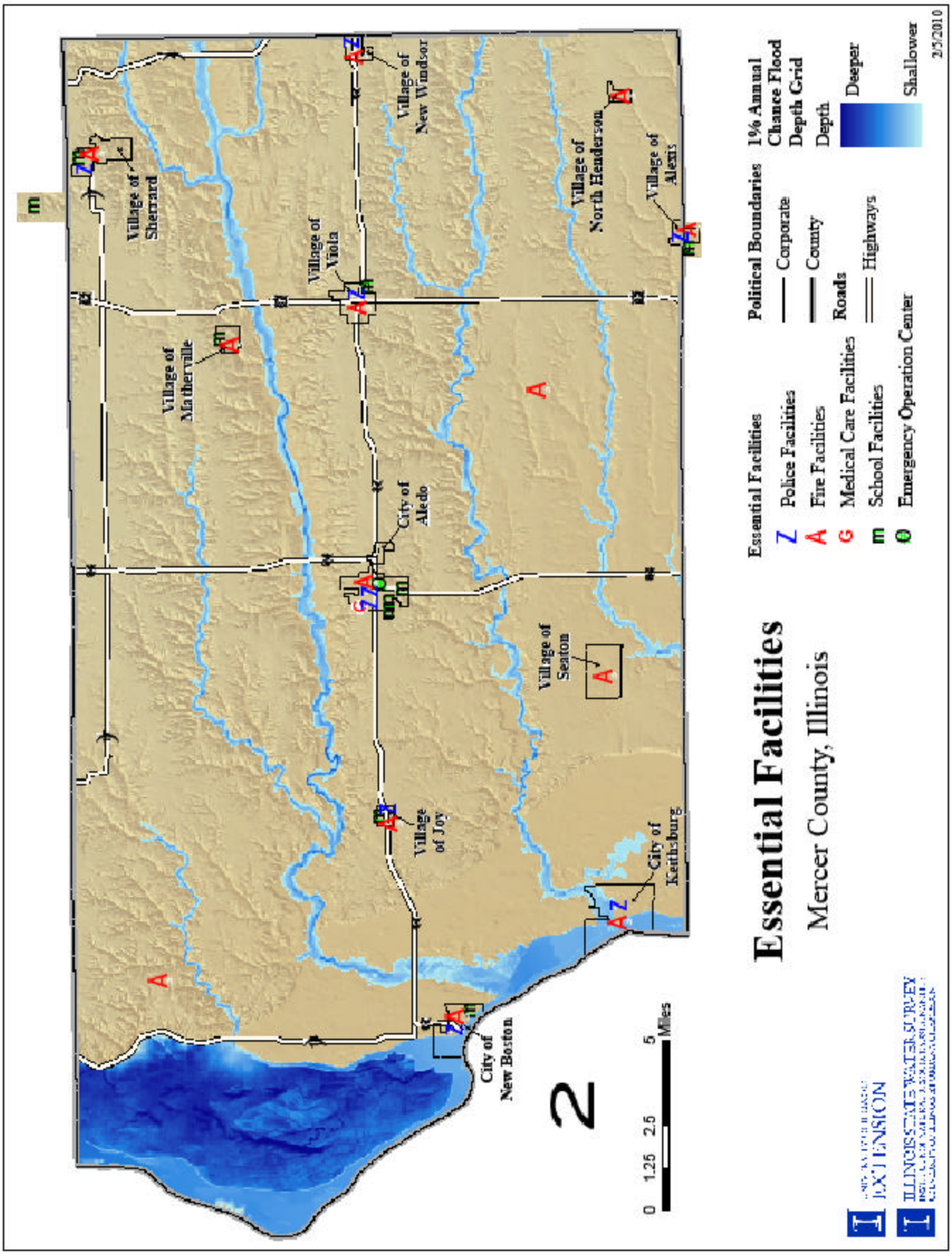


Figure 43: Levee Structures

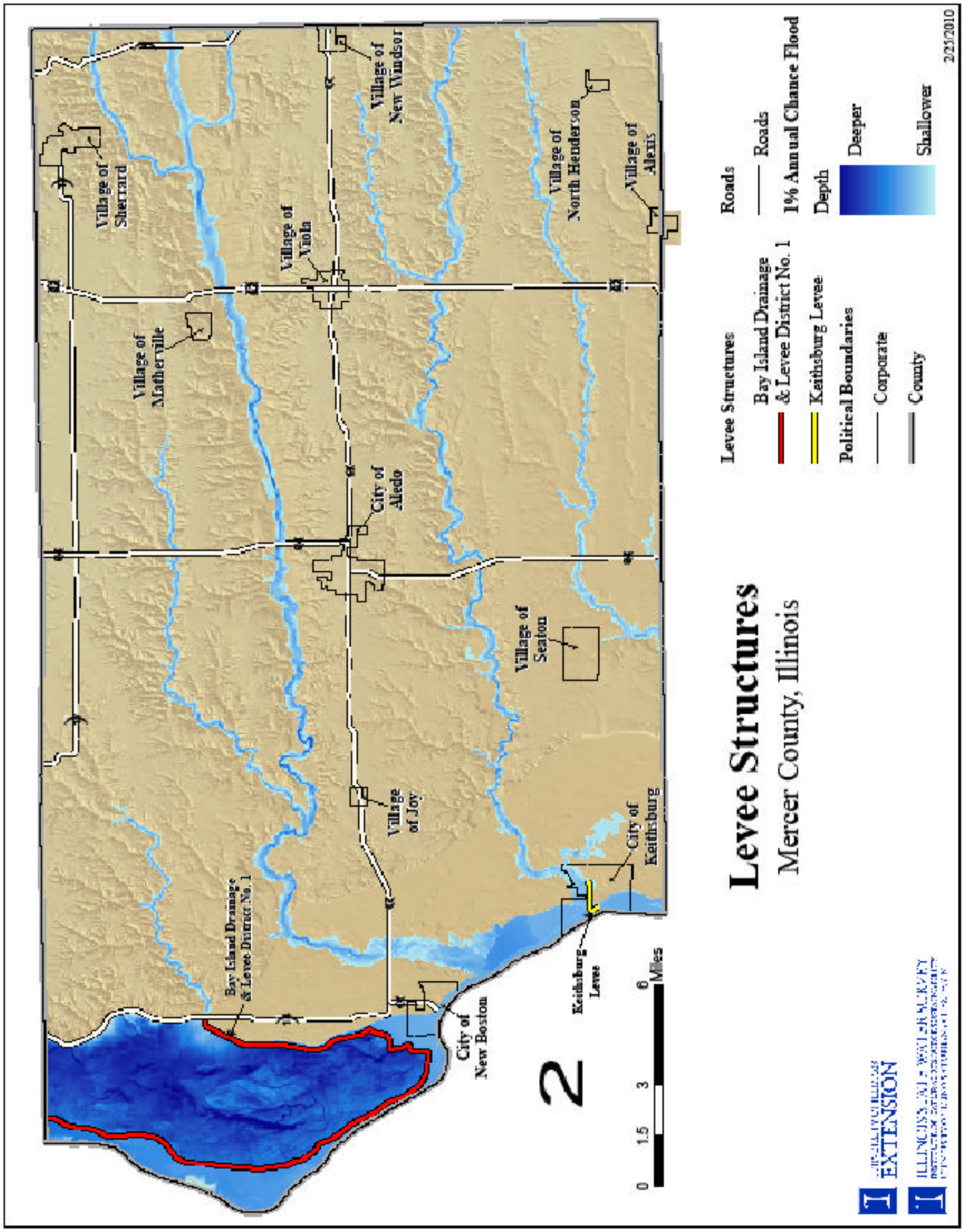
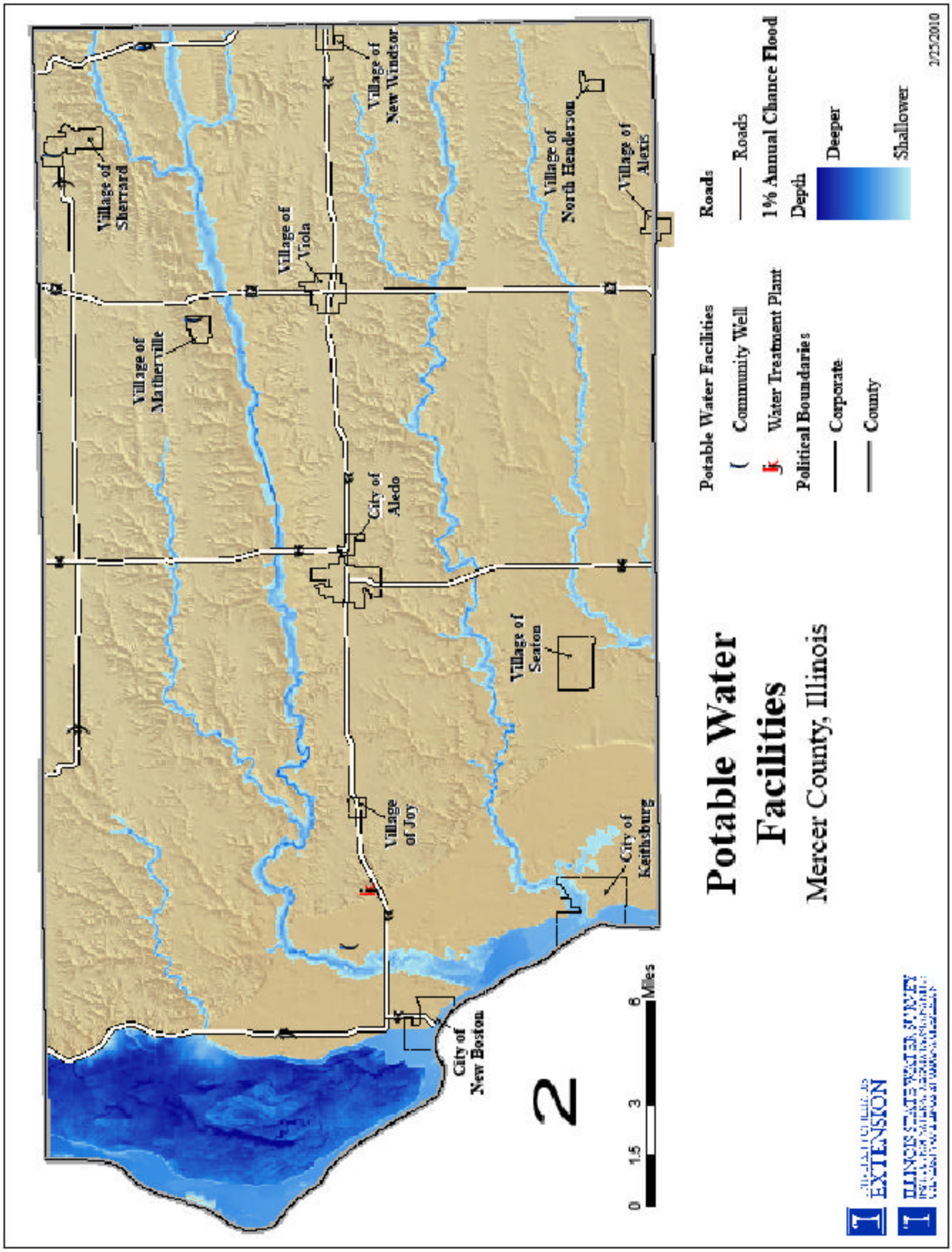


Figure 44: Potable Water Facilities



Earthquake

What is an earthquake?

(Source: 2007 Illinois Natural Hazard Mitigation Plan)

"Earthquakes occur when rocks forming the earth's crust slip past each other along a fault. This slippage occurs when the buildup of stresses gets to the point that they are greater than the strength of the locked up section of rocks along the fault plane. When faulting takes place, the sudden release of energy produces vibrations or seismic (shock) waves that radiate from the main fault movements. These waves cause the shaking or "quaking" that lasts tens of seconds to a few minutes, depending on the magnitude of the event (energy released) and what kinds of rocks they travel through and the stiffness or lack of stiffness of the soils at a site. Where the faulting starts, at some depth below the Earth's surface, is the hypocenter (focus) of an earthquake. The point on the surface directly above the focus is the epicenter."

How are earthquakes measured?

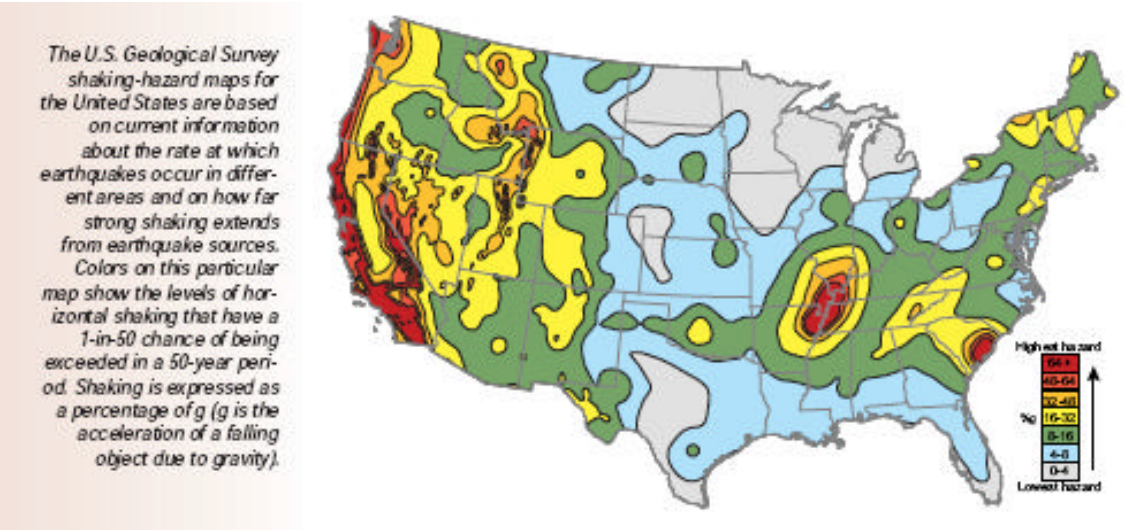
There are two ways to measure earthquakes.

The magnitude is a calculation of the seismic energy released and is measured through ground vibrations with a seismograph. The familiar Richter Scale is one way of reporting magnitude. The increments of magnitude are logarithmic. An increase of 0.2 on the Richter Scale indicates a doubling of the amount of energy released. For example, a magnitude 7 earthquake releases about 32 times more energy than a magnitude 6 earthquake. A single magnitude number is calculated for each earthquake event.

The intensity relates to the effects of an earthquake and is based on descriptions provided by people experiencing the event rather than readings from an instrument. The intensity decreases when moving away from the epicenter. The type of soil influences intensity which will be stronger through the thick, loose, saturated soils found along river valleys. The Modified Mercalli Intensity Scale is used in the United States to report earthquake intensities. Many intensities are indicated for each earthquake event based on distance from the epicenter and soil type.

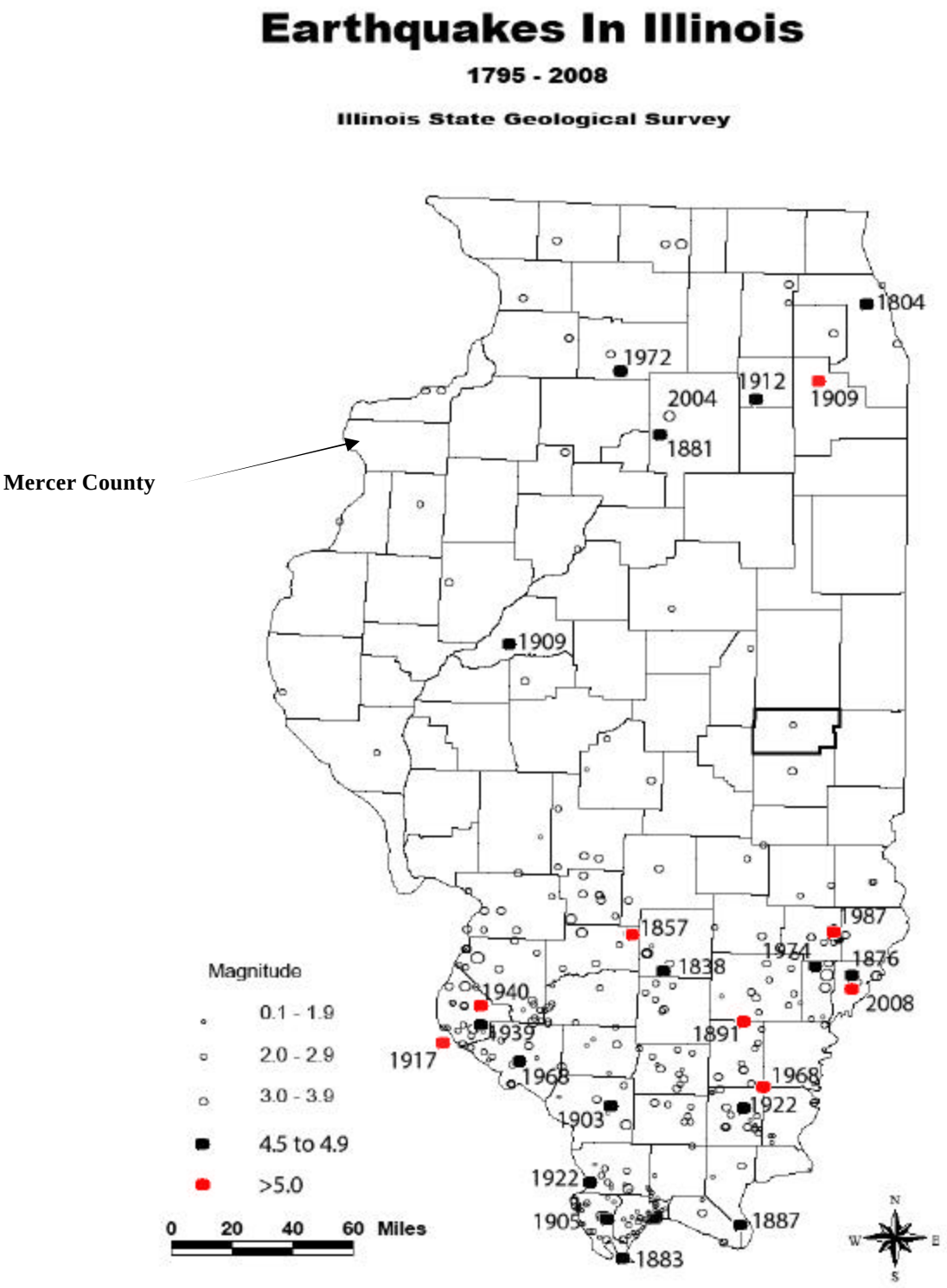
There is no record of significant earthquake damage in Mercer County.

Figure 45: Shaking Hazard Map



(Source: the US Geological Survey)

Figure 46: Earthquakes In Illinois Over The Past 200 Years



(Source: 2007 Illinois Natural Hazard Mitigation Plan)

Mitigation Strategy

Hazard Mitigation Goals

After having reviewed the risk assessments for each hazard and the results of the citizen survey, documented existing plans and ordinances, identified critical facilities, and confirmed socioeconomic data the Task Force met to formulate goals and objectives for the plan.

Goals, Objectives, and Mitigation Actions

Mercer County Hazard Mitigation Goals

Goal 1- Life, Health and Safety: Design and implement mitigation projects that will protect the lives, health and safety of people and animals of Mercer County from the dangers of natural hazards.

Goal 2- Protect Private Property: Implement procedures and actions that will protect private property from natural hazards, including removal and/or relocation of areas that have been repeatedly damaged in natural hazards.

Goal 3- Prevent damage to Infrastructure: Develop plan to both protect existing infrastructure and design new infrastructure to be resilient to the effects of natural hazards.

Goal 4- Improve Communications: Develop methods and procedures to maintain and improve communication between Mercer County residents, government, and private entities both before and during a disaster.

Goal 5- Emergency Response Minimization: Develop projects and systems that minimize the need and expenditures for rescue and relief efforts associated with all natural hazards.

Goal 6- Reduce the Effects of Natural Hazards: Create projects that will reduce the impacts of natural hazards on all communities and rural areas of Mercer County, including those from tornados, flooding, and winter storms.

Projects Related to the Goals and Objectives

The list of project samples were presented to the Task Force. It was suggested to the community representatives that the list be used as a basis for discussion with community leaders on projects that would be appropriate for their village or city. The project ideas came from people who had spent several months considering the subject of natural hazards. Of course, communities were not limited to the projects on the list.

Mitigation Actions - Priorities and Implementation

The projects were prioritized within the county by using the following method. It is important to recognize that the implementation of all actions is desirable regardless of prioritized order. Actions assigned to Priority A have a permanent or more far-reaching affect than actions under Priority B, although both address the most significant natural hazards in the County. Priority C actions all address the less significant natural hazards. Priority J actions are ready for implementation within the next year and can be accomplished within existing budgets. All actions will aid in the mitigation effort and should be implemented as opportunities arise.

Project Prioritization Method

Priority A projects permanently eliminate property damages and/or eliminate or reduce injuries and deaths in a specific area OR have a high probability to systematically reduce property damages, injuries and deaths across a wide area. Priority A projects address the most significant natural hazards – extreme heat, flood, severe storm, tornado, and winter storm.

Priority B projects reduce property damages in a specific area OR have the potential to reduce property damages, injuries and deaths across a wide area OR educate the public on disaster preparedness and mitigation. Priority B projects address the most significant natural hazards – extreme heat, flood, severe storm, tornado, and winter storm.

Priority C projects eliminate or reduce property damages, injuries and deaths from the less significant natural hazards OR educate the public on disaster preparedness and mitigation related to the less significant natural hazards – dam failure, drought, earthquake and mine subsidence.

Priority J projects can "just be done" without requiring outside funding and are able to be implemented within one year of Plan adoption. These can be one-time projects or ongoing projects and may address any hazard.

Cost/Benefit Analysis

A cost/benefit analysis will be needed for any of these projects to be implemented. A cost/benefit analysis will be performed at the time of project selection. The committee assigned preliminary cost/benefit assessments to each identified project, using general terms of High, Medium, and low related to both the cost and benefit. A "High" rating on cost means it is unlikely the jurisdiction could accomplish the project without outside funding, while a "high" rating on benefit relates to how well the project would mitigate the situation. A low cost rating, conversely, means that is likely the jurisdiction can accomplish the project without outside funding.

These ratings are simply perceptions of the community, and formal cost/benefit analysis would have to performed for each project once true costs were assigned.

Following is a table of the final community projects developed by the various participating jurisdictions..

Figure 47: Jurisdictional Project Grid

Goal	Community	Project Type	Hazard Type	Possible Funding	Project Description	Priority	Lead Implementer/ Contact	Proposed Schedule	Benefit / Cost
1. a.	Mercer County	Shelter	Tornado, Severe Storm, Extreme Temperature	FEMA/ Local	Construct multipurpose storm shelters at strategically place locations in the county, especially in unincorporated areas of heavy population concentration. Ensure existing shelter locals are supplied with adequate equipment and supplies for all emergency situations.	A	EMA Director/ County Board	2010-2015	High/High
1. a.	Mercer County	Emergency Response	All Hazard	IESMA,IEMA, FEMA, USDA	Upgrade/repair/install outdoor warning systems throughout the county following the Mercer County Outdoor Warning Systems Protocol.	B	EMA Director/ Local Jurisdictions	2010-2013	Medium/ Medium
5	Mercer County	Emergency Response	Tornado, Severe Storm, Extreme Temperature	TBD	Ensure each shelter location and emergency response center has a generator available and large enough to supply power in the event of power failure.	B	EMA Director/ Shelter Site managers	2010-2015	High/Medium
3	Mercer County	Infrastructure	Flooding/Flash Flooding	IDOT, USDA, IEMA	Determine methods to drain water from roadways and critical structures, including improved culverts, drainage systems, and zero run off policies	B	County Board, EMA Director	2010-2015	High/High
1.b.	Mercer County	Education	Tornado, Severe Storm, Extreme Temperature	Local	Create a list and map showing existing warming and cooling centers, shelter location throughout the county and make available to public.	J	EMA/Health Department/County Board	2010	High/Low
2	Mercer County	Education	Flooding	Local	Use flood zone maps to educate and inform private property owners as to their risk of flooding, and preventative measures that can be taken.	J	County Assessor's office/County Board/EMA Director	2010	High/Low
3	Mercer County	Emergency Response	All Hazard	IDOT, IEMA, FEMA	Obtain and have ready all equipment necessary to maintain transportations routes throughout the county in the event of natural disaster.	B	County Engineer/ County Board	2011-2015	High/High
4	Mercer County	Emergency Response	All Hazard	Local	Develop and maintain a centralized communication center where both emergency responders and volunteers can coordinate vulnerable population check list, private vehicle available list (i.e. four wheelers, snowmobiles, and golf carts) and any other critical response needs.	J	EMA Director/First Responders	2010	High/Low
1	Mercer County	Policy	All Hazards	Local	Maintain active participation status with NFIP	J	County Board/ ESDA Director	Ongoing	High/High

Figure 46: Jurisdictional Project Grid Cont.

Goal	Community	Project Type	Hazard Type	Possible Funding	Project Description	Priority	Lead Implementer/ Contact	Proposed Schedule	Benefit / Cost
1	Aledo	Shelter	Tornado/Severe Storm/Extreme Temperatures	FEMA	Construct a new Fire Station, incorporating safe room construction techniques to serve needs of Aledo Community Members.	A	Fire Chief/City Council	2010-2012	High/High
1	Aledo	Policy	Flooding	Local	Maintain active participation status with NFIP	J	City Council/ ESDA Director	Ongoing	High/High
1	Aledo	Shelter	Tornado/Severe Storm/Extreme Temperatures	FEMA	Construct Safe Rooms/Shelters/warming centers through Community; including Schools, major employers.	A	City Council, Superintendant, Private Business Owners	2010-2015	High/High
3.a.	Aledo	Infrastructure	Flooding	TBD	Upgrade storm sewer system to alleviate basement damage within the city due to excessive rain.	B	Director of Public Works	2012-2015	High/High
4	Aledo	Communication	All hazard	TBD	Install Generator at WRMJ Transmitter Site	B	EMA Director/ WRMJ General Manager	2011	High/Medium
1.a.	Joy	Shelter	Tornado/Severe Storm/Extreme temperatures	FEMA/ IEMA	Determine Locations and rehab needs and establish multiuse shelter facilities for community	A	Mayor/City Council with EMA Director	2011-2015	High/High
1.b.	Joy	Education	All Hazards	Local	Educate Community as to how to reduce risk due to natural Hazards	B	EMA Director/City Officials	Ongoing	High/Low
2.b.	Keithsburg	Acquisition	Flooding	FEMA/ DCEO	Acquire severe flood loss properties in flood plain.	A	City Council/ Mayor	2010	High/High
3.a.	Keithsburg	Infrastructure	Flooding	FEMA/ IDOT	Elevate roadway that divides town during floods.	A	Road Department/ City Council	2011-2015	High/High
1.c.	Keithsburg	Emergency Response	Tornado/Severe Storm	TBD	Develop and install an Emergency Warning System to notify all citizens of imminent danger.	B	EMA Director/City Council	2010-2013	High/Medium
1.a.	Keithsburg	Shelter	All Hazard	TBD	Determine locations, rehab and supply emergency shelter locations for all hazard types.	B	City Council	2010-2012	Medium/ Medium
1	Keithsburg	Policy	Flooding	Local	Maintain active participation status with NFIP	J	City Council/ ESDA Director	Ongoing	High/High

Figure 46: Jurisdictional Project Grid Cont.

Goal	Community	Project Type	Hazard Type	Possible Funding	Project Description	Priority	Lead Implementer/ Contact	Proposed Schedule	Benefit/ Cost
1.a.	Matherville	Shelter	Tornado/ Severe Storm/ Extreme temperatures	FEMA/ IEMA	Determine Locations and rehab needs and establish multiuse shelter facilities for community	A	Mayor/City Council with EMA Director	2011-2015	High/High
1.b.	Matherville	Education	All Hazards	Local	Educate Community as to how to reduce risk due to natural Hazards	B	EMA Director/City Officials	Ongoing	High/Low
1.a.	New Boston	Shelter	Tornado/ Severe Storm/ Extreme temperatures	FEMA/ IEMA	Determine Locations and rehab needs and establish multiuse shelter facilities for community	A	Mayor/City Council with EMA Director	2011-2015	High/High
1.b.	New Boston	Education	All Hazards	Local	Educate Community as to how to reduce risk due to natural Hazards	B	EMA Director/City Officials	Ongoing	High/Low
1.a	New Windsor	Shelter	Tornado/ Severe Storm/ Extreme temperatures	FEMA/ Local	Construct a multi-purpose storm shelter within a new city building to be used as a warming/cooling center in addition to Tornado/severe storm shelter.	A	Mayor/City Council with EMA Director	2011-2015	High/High
1.b.	New Windsor	Education	All Hazards	Local	Educate Community as to how to reduce risk due to natural Hazards	B	EMA Director/City Officials	Ongoing	High/Low
1	New Windsor	Emergency Response	All Hazards	Local	Review jurisdictional Emergency Response Plan to maintain consistency with Hazard Mitigation Plan.	J		Ongoing	
1.a.	North Henderson	Shelter	Tornado/ Severe Storm/ Extreme temperatures	FEMA/ IEMA	Determine Locations and rehab needs and establish multiuse shelter facilities for community	A	Mayor/City Council with EMA Director	2011-2015	High/High
1.b.	North Henderson	Education	All Hazards	Local	Educate Community as to how to reduce risk due to natural Hazards	B	EMA Director/City Officials	Ongoing	High/Low
1.a.	Seaton	Shelter	Tornado/ Severe Storm/ Extreme temperatures	FEMA/ IEMA	Determine Locations and rehab needs and establish multiuse shelter facilities for community	A	Mayor/City Council with EMA Director	2011-2015	High/High
1.b.	Seaton	Education	All Hazards	Local	Educate Community as to how to reduce risk due to natural Hazards	B	EMA Director/City Officials	Ongoing	High/Low
1	Seaton	Policy	Flooding	Local	Maintain active participation status with NFIP	J	City Council/ ESDA Director	Ongoing	High/High

Figure 46: Jurisdictional Project Grid Cont

Goal	Community	Project Type	Hazard Type	Possible Funding	Project Description	Pri-ority	Lead Implementer/Contact	Proposed Schedule	Benefit/ Cost
1	Sherrard	Shelter	Tornado/Severe Storm/Extreme Temperatures	FEMA	Construct a multipurpose shelter as part of an City Building	A	City Council	2013	High/High
3	Sherrard	Infrastructure	Drought	Local	Link City water supply to Fire Lake Water System to ensure adequate water supply	B	City Council	2010	Medium/Low
1.a.	Viola	Shelter	Tornado/Severe Storm/Extreme temperatures	FEMA/ IEMA	Determine Locations and rehab needs and establish multiuse shelter facilities for com-munity	A	Mayor/City Council with EMA Director	2011-2015	High/High
1.b.	Viola	Education	All Hazards	Local	Educate Community as to how to reduce risk due to natural Hazards	B	EMA Director/City Offi-cials	Ongoing	High/Low

Monitoring, Evaluating, Plan Maintenance Strategy

Mercer County Maintenance Plan

One crucial element of the Mercer County Hazard Mitigation Plan is the maintenance and implementation of the plan. The Mercer County Emergency Management Director will be responsible for the record keeping and maintenance of the plan. This responsibility will include calling and facilitating the annual plan meeting, surveying the participating jurisdictions for progress on jurisdictional goals, and maintaining detailed records for plan updates.

Annual meeting of the planning committee, including all of the participating jurisdictions, will be held in the spring of each year. At that that time, the Mercer County Emergency Management director, will facilitate discussion surrounding the progress of established goals from the FEMA approved plan, assist with the identification of new and emerging project ideas from each of the communities, and facilitate discussion of new issues that may have arisen of the past year that affect the plan.

Records of these annual meeting will be maintained within the Mercer County Emergency Management office, and compiled for plan updates within the five year update time frame. In addition to maintaining records for the plan updates, the Emergency Management Director will also serve as a resource for the participating jurisdictions to identify potential funding streams for identified projects within the plan, and referring communities to resources and assistance to moving projects from plan to completion.

Under the current Flood Map, the communities of Seaton, Keithsburg, New Windsor, and Aledo as well as Mercer County Participate in the National Flood Insurance Program (NFIP). Maintaining active status in NFIP will be a portion of the plan maintenance strategy. Jurisdictions adopting the plan are required to maintain active status to continue to be covered by the plan. This continued participation will be monitored by the EMA Director.

The EMA Director will also provide assistance and guidance to each jurisdiction in additional planning processes, ensuring that the components of newly developed plans and ordinances are consistent with the components of the Multi-Jurisdictional Hazard Mitigation Plan. This will provide a resource for jurisdictions in planning activities such as comprehensive planning, strategic planning, or other plans that may be developed by participating jurisdictions.

Appendix A - Adoption Resolution Sample

RESOLUTION _____

WHEREAS, the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan has been prepared by the University of Illinois Extension through the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force; and,

WHEREAS, the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan has been prepared in accordance with FEMA requirements at 44 C.F.R. 201.6; and,

WHEREAS, the Village of _____ is a local unit of government that has afforded the citizens an opportunity to comment and provide input to the Plan and the actions in the Plan; and,

WHEREAS, the _____ Village Board has reviewed the Plan and affirms to participate in the Workgroup that will review the Plan every year and update it no less than every five years;

NOW THEREFORE, BE IT RESOLVED by the _____ Village Board that the Village of _____ adopts the Mercer County Multi-jurisdictional Natural Hazards Mitigation Plan as this jurisdiction's Multi-hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this _____ day of _____, 2010 at the meeting of the _____ Village Board.

_____
_____, President

Appendix B -Listing of Essential Facilities and Community-Identified Structures

Ambulance Service

Community	Name of Facility
Aledo	Adv. Medical Transport of Central IL
Keithsburg	Keithsburg Fire Department
New Boston	New Boston Volunteer Ambulance Service
North Henderson	Alexis/North Henderson Ambulance Service
Sherrard	Sherrard Fire Protection District

Emergency Operations Center

Community	Name of Facility
Aledo	Mercer County Health Department

Emergency Shelter Facilities

Community	Name of Facility
Aledo	VFW Hall
Joy	Joy Fire Department
Matherville	Matherville Village Hall
Matherville	Preemption Township Hall
New Boston	Mercer County Elementary School
New Windsor	CE Building
Seaton	Seaton Fire Department
Sherrard	Sherrard Fire Protection District
Viola	Viola Fire Department

Fire Facilities

Community	Name of Facility
Aledo	Aledo Fire Protection District
Alexis	Alexis Fire Department
Burgess	Burgess Fire Department
Eliza	Eliza Fire Department
Joy	Joy Fire Department
Keithsburg	Keithsburg Fire Department
Matherville	Matherville Fire Department
New Boston	New Boston - Eliza Fire Protection District
New Windsor	Rivoli Fire Protection District
North Henderson	North Henderson Fire Department
Seaton	Seaton Fire Department
Sherrard	Sherrard Fire Protection District
Viola	Viola Fire Station

Medical Facilities

Community	Name of Facility
Aledo	Mercer County Hospital

Police Facilities

Community	Name of Facility
Aledo	Aledo Police Dept
Aledo	Mercer County Sheriff
Alexis	Alexis Police Dept
Joy	Joy Police Dept
Keithsburg	Keithsburg Police Dept
New Boston	New Boston Police Dept
New Windsor	New Windsor Police Dept
Sherrard	Sherrard Police Dept
Viola	Viola Police Dept

School Facilities

Community	Name of Facility
Aledo	Mercer County High School
Aledo	Mercer County Intermediate
Aledo	Apollo Elementary School
Alexis	United North Elementary
Joy	Mercer County Jr High School
Matherville	Matherville Intermediate School
New Boston	New Boston Elementary School
Sherrard	Sherrard Elementary School
Sherrard	Sherrard High School
Sherrard	Sherrard Jr High School
Viola	Viola Grade School

Vulnerable Populations

Community	Name of Facility
Aledo	Aledo Rehab (Nursing Home)
Aledo	Head Start Home Start
Aledo	Heritage Woods Assisted Living
Aledo	Mercer County Nursing Home
Aledo	Mercer County Senior Citizens Center
Aledo	Vashti Village Senior Housing
Aledo	YMCA Children's School
Keithsburg	Senior Center
Keithsburg	Senior Housing
New Windsor	Cozy Haven Homes
New Windsor	Skribbles Daycare
Sherrard	Skribbles Too
Viola	Marigold Village Senior Housing

Appendix B Cont. -Listing of Critical Facilities and Community-Identified Structures

Places of Large Assembly

Community	Name of Facility
Aledo	Church of the Nazarene
Aledo	College Avenue Presbyterian Church
Aledo	Community Bible Fellowship
Aledo	First Baptist Church
Aledo	General Grind and Machine
Aledo	Grace Evangelical Free Church
Aledo	Jehovah Witnesses
Aledo	Head Start Home Start
Aledo	Living Waters Christian Center
Aledo	Mercer County YMCA
Aledo	Messiah Lutheran Church
Aledo	New Life Assembly of God Church
Aledo	Senior Center
Aledo	St. Catherine's Catholic Church
Aledo	Sunbeam United Presbyterian Church
Aledo	Trinity Presbyterian Church
Aledo	VFW
Aledo	YMCA Children's School
Alexis	Alexis Community Center
Alexis	Alexis United Presbyterian
Alexis	Norwood United Presbyterian Church
Alexis	St. John Catholic Church (Viola)
Alexis	Village Baptist Church
Joy	First Baptist Church
Joy	Grace Chapel
Joy	Joy United Methodist Church
Keithsburg	Christian Church
Keithsburg	St Mary's Church

Places of Large Assembly Cont.

Lynn Center	Swedona Lutheran Church
Matherville	St. Anthony Catholic
Matherville	Boden Community Church
Matherville	Matherville Community Church
Matherville	Preemption Township Hall
Matherville	Matherville Village Hall
New Boston	Eliza Community Church
New Boston	Community House of Prayer
New Boston	New Boston United Methodist
New Windsor	United Presbyterian Church
New Windsor	Calvary Lutheran Church
New Windsor	Skribbles
North Henderson	United Methodist - North Henderson
North Henderson	Zion Lutheran
Preemption	Preemption United Methodist Church
Preemption	St. John's Episcopal Church
Reynolds	Hamlet-Perryton Presbyterian Church
Reynolds	Reynolds United Methodist Church
Reynolds	Antioch Baptist Church
Seaton	Center Presbyterian Church
Sherrard	First Lutheran Church
Sherrard	Cable Community Church
Sherrard	Community Presbyteran Church
Sherrard	Skribbles Too
Viola	First Apostolic Church
Viola	Presbyterian Church
Viola	St John's Catholic Church
Viola	Viola United Methodist Church

Appendix C - Community Survey

Public Survey

Jennifer Hamerlinck
Mercer County Emergency Management Agency

1007 NW Third Street
Aledo, IL 61231
309-582-3759 Phone jhamerli@idphnet.com Email

October 27, 2009

Hazard Mitigation Plan
Survey Instructions

Thank you for your assistance in gathering completed surveys from Mercer County residents, which will provide us with valuable information for the Hazard Mitigation Plan (HMP).

Provided is a supply of the HMP survey, pens, and display sign. Your patrons should fill out these surveys on your premises, and leave behind once completed.

We have also listed you as a location in the news release (enclosed).

Please gather these surveys from now until the week of November 9, at which time, someone from our office or Extension will stop by to pick-up the completed surveys and related supplies.

If you need an additional supply during the survey period, please contact Jenny Garner, University of Illinois Extension, jsgarnr@illinois.edu or (309) 582-7695.

Thank you again for your support of this project.

Sincerely,

Jennifer Hamerlinck, RN
Director, Mercer County Emergency Management Agency
(309) 582-3759
jhamerli@idphnet.com

1. What is your zip code? _____

2. Do you live in a community with others (in town) or in the country? ___ town ___ country

3. In the past 10 years, have you or someone in your household experienced a natural disaster within Mercer County such as severe storms, floods, winter storms, extreme temperatures, tornado, drought, earthquake, mine subsidence, or other natural disasters TO THE EXTENT THERE WAS HARM TO PEOPLE (YOU, A FAMILY MEMBER) OR YOUR PROPERTY?

   o1 Yes (*go to question #4*) o2 No (*go to question #5*)

4. Which of the following types of natural hazards events have you or someone in your household experienced TO THE EXTENT THERE WAS HARM TO YOU, A FAMILY MEMBER OR YOUR PROPERTY? (please check all that apply)

   o1 Severe storm (wind, lightning) o2 Flood o3 Winter storm (ice, hail, etc.)
   o4 Extreme temperatures (heat, cold) o5 Tornado o6 Drought
   o7 Earthquake o8 Mine Subsidence (sinking) o9 Flash flooding
   o10 Other (please specify): _____

5. On a scale of 1 to 5, how prepared do you feel you and your household are for the potential impacts of natural hazard events likely to occur within Mercer County?

1 Not at all prepared	*2 Somewhat prepared*	*3 Adequately prepared*	*4 Well pre-pared*	*5 Very well prepared*
o1	o2	o3	o4	o5

6. How concerned are you about the following natural hazards impacting your community and/or Mercer County? (please check the corresponding box for each hazard)

Natural Hazard	*Not concerned*	*Somewhat concerned*	*Concerned*	*Very con-cerned*	*Extremely concerned*
a. Severe storm (wind, lightning)	o1	o2	o3	o4	o5
b. Flood	o1	o2	o3	o4	o5
c. Winter storm (ice, hail. etc.)	o1	o2	o3	o4	o5
d. Extreme temperatures	o1	o2	o3	o4	o5
e. Tornado	o1	o2	o3	o4	o5
f. Drought	o1	o2	o3	o4	o5
g. Earthquake	o1	o2	o3	o4	o5
h. Mine subsidence (sinking)	o1	o2	o3	o4	o5
i. Flash flooding	o1	o2	o3	o4	o5
j. Other (please specify):	o1	o2	o3	o4	o5

7. What are the most effective ways for you to receive information about how to make your household and home safer from natural disasters? (please check all that apply)

   o1 newspaper stories o2 newspaper ads o3 television news
   o4 television ads o5 radio news o6 radio ads o7 schools
   o8 books o9 fact sheet/brochure o10 magazine o11 mail
   o12 fire department o13 Internet o14 government
   o15 Other (please specify): _____

8. To the best of your knowledge, is your property located in a designated floodplain?

o1 Yes o2 No

9. To the best of your knowledge, is your property located in close proximity (less than 1 mile) to an earthquake fault line?

o1 Yes o2 No

10. Do you have flood insurance? o1 Yes o2 No

11. Do you have earthquake insurance? o1 Yes o2 No

12. How vulnerable to damage is the infrastructure (streets, water, sewer, electricity, etc) that serves your home and/or community?

Natural Hazard	*Minimally Vulnerable*	*Moderately Vulnerable*	*Severely Vulnerable*	*Don't Know*
a. Severe storm (wind, lightning)	o1	o2	o3	o99
b. Flood	o1	o2	o3	o99
c. Winter storm (ice, hail. etc.)	o1	o2	o3	o99
d. Extreme temperatures	o1	o2	o3	o99
e. Tornado	o1	o2	o3	o99
f. Drought	o1	o2	o3	o99
g. Earthquake	o1	o2	o3	o99
h. Mine subsidence (sinking)	o1	o2	o3	o99
i. Flash flooding	o1	o2	o3	o99
j. Other (please specify):	o1	o2	o3	o99

13. How vulnerable to damage are the critical facilities (police stations, fire stations, emergency operation centers, etc.) within your community?

Natural Hazard	*Minimally Vulnerable*	*Moderately Vulnerable*	*Severely Vulnerable*	*Don't Know*
a. Severe storm (wind, lightning)	o1	o2	o3	o99
b. Flood	o1	o2	o3	o99
c. Winter storm (ice, hail. etc.)	o1	o2	o3	o99
d. Extreme temperatures	o1	o2	o3	o99
e. Tornado	o1	o2	o3	o99
f. Drought	o1	o2	o3	o99
g. Earthquake	o1	o2	o3	o99
h. Mine subsidence (sinking)	o1	o2	o3	o99
i. Flash flooding	o1	o2	o3	o99
j. Other (please specify):	o1	o2	o3	o99

14. What actions do you think could be taken by individuals or the community to reduce damages and hardships caused by natural hazard events?

_____

_____

_____

15. Did you consider the impact that the possible occurrence of a natural disaster would have on your home before you purchased or moved in?

o1 Yes o2 No o3 Don't recall

16. Was the presence of a natural hazard risk zone (flood zone, fault zone, etc.) disclosed to you by a real estate agent, seller, or landlord before you purchased or moved into your home?

o1 Yes o2 No o3 Don't recall

17. Would the disclosure of this type of information influence your decision to purchase or move into a home?

o1 Yes o2 No o3 Maybe

18. Would you be willing to spend money to modify or retrofit your current home from the impacts of future natural disasters? (Examples of retrofitting are: elevating a flood prone home; bolting a foundation for seismic impacts; improving home exteriors to withstand higher winds; and so on)?

o1 Yes o2 No o3 Maybe

19. Which of the following incentives would help to encourage you to spend money to retrofit your home for the possible impacts of natural disasters? (please check all that apply)

o1 low interest rate loan o2 insurance premium discount o3 mortgage discount

o4 property tax break o5 grant funding (with cost share) o6 none

o7 Other (please specify): _____

20. If your property were located in a designated high hazard area or had received repetitive damages from a natural event, would you consider a buyout or relocation offered by a public agency?

o1 Yes o2 No o3 Maybe

GENERAL INFORMATION

21. How old are you? _____

22. Are you…? o1 Male o2 Female

23. How long have you lived in Mercer County?

o1 Less than 1 year o2 1 – 4 years o3 5 – 9 years

o4 10 – 19 years o5 20 years or more

24. Do you have access to the Internet? o1 Yes o2 No

25. Do you own or rent your home? o1 Own o2 Rent

26. What type of structure do you live in?

o1 single family home o2 duplex o3 apartment (3-4 units in structure)

o4 apartment (5 or more units in structure) o5 condominium / townhouse

o6 manufactured home o7 trailer

o8 Other (please specify): _____

Appendix D— Newspaper Article

www.aledotimesrecord.com The Times Record Wednesday, November 4, 2009

Mercer County residents' opinions needed for hazard mitigation planning

The Mercer County Emergency Management Agency is asking Mercer County residents for their input in the development of a plan to lessen the impact of natural disasters on residents and communities in Mercer County. "It is clear to us that we need the opinions of those who live and work in the County," said Jennifer Hamerlinck, director of the Emergency Management Agency.

Mercer County is subject to floods, tornadoes, winter storms, drought and thunderstorms. It is also in a risk zone for earthquakes. "Our intent is to gain resident's insights as to how to prepare for any of these natural disasters before they happen," Hamerlinck continued.

Mitigation planning reduces the physical, social and economic impact to residents and property when a natural disaster occurs.

Planning efforts are being led by the Mercer County Emergency Management Agency that has retained the services of University of Illinois Extension to develop the plan.

Survey locations

Surveys can be filled out online by going to http://cads.extension.uiuc.edu/ and click on the Surveys tab.

Then click on the Mercer County Hazard Mitigation Planning Survey.

Residents can also fill out and leave behind surveys available at these locations:

- Mercer County Health Department, 305 NW 7th Street, Aledo
- Aledo Mercer County Courthouse, 100 SE 3rd Street, Aledo
- University of Illinois Extension Office, 702 SE 3rd Street, Aledo
- City and Village Halls in Aledo, Alexis, Joy, Keithsburg, Matherville, New Boston, New Windsor, North Henderson, Reynolds, Seaton, Sherrard, and Viola
- Libraries: Mercer County Carnegie Library, Aledo; Sherrard Community Library and Viola Public Library
- Businesses: Country Bank, Aledo; 1st Community Bank, Aledo and Sherrard; Farmers State Bank of Western Illinois, Aledo, New Windsor and Viola; Freedom Bank Seaton; Jim's Barber Shop, Alexis; Joy State Bank, THE National Bank, Aledo, and YMCA, Aledo.

Once completed, Mercer County's hazard mitigation plan will comply with Federal Emergency Management Agency regulations, allowing the county and participating cities and villages to apply for federal and state funding specifically earmarked for hazard mitigation. Many of the mitigation strategies will also provide useful information to local residents and businesses on how to reduce their potential hazard risks.

A steering committee, comprised of members from the city and village departments, has been meeting on a monthly basis. Town hall meetings have been held in various communities, as were sessions with industry sectors, including health and human services, agriculture and natural resources, transportation, business and development, arts and culture and education.

Mercer County

Hazard Mitigation Community Meetings

PLANNING FOR THE FUTURE IN THE EVENT OF A DISASTER

WE NEED YOUR INPUT AND IDEAS

Please try to attend one of the following meetings in a community near you and share **your ideas** about weather related incidents, natural hazards, and community preparedness.

SHERRARD Fire Station Wednesday, Aug. 19th 5:00pm

(Target Communities: Matherville, New Windsor, North Henderson, Sherrard)

NEW BOSTON Fire Station Wednesday, Aug. 26th 5:00pm

(Target Communities: Bay Island, Eliza, Joy, New Boston)

Aledo U of I Extension Office Wednesday, Sept. 2nd 5:00pm

(Target Communities: Aledo, Alexis, Viola)

Keithsburg City Hall Wednesday, Sept. 9th 5:00pm

(Target Communities: Keithsburg, Seaton)

For more information call Jennifer Hamerlinck or Julie VanMelkebeke at Mercer County Health Department 309-582-3759

August 4, 2009 **Contact:** Jennifer Hamerlinck, Mercer County Emergency Management Agency, (309) 582-3759, jhamerli@idphnet.com

MEDIA ADVISORY

Town Hall Meetings: Hazard Mitigation Planning for Mercer County

WHAT: The Mercer County Emergency Management Agency announces four town hall meetings to consult Mercer County residents on hazard mitigation planning. The intent is to prepare for a natural disaster before it occurs by reducing the physical, social and economic impact of residents.

Residents from the various communities are being asked to attend these meetings as follows; however, they may attend another if schedule conflicts:

Aledo Meeting	Keithsburg Meeting	Sherrard Meeting	New Boston Meeting
Aledo	Keithsburg	Matherville	Bay Island
Alexis	Seaton	New Windsor	Eliza
Viola		North Henderson	Joy
		Sherrard	New Boston

Planning efforts are being led by the Mercer County Emergency Management Agency that has retained the services of University of Illinois Extension to develop the Hazard Mitigation Plan.

WHEN/ WHERE: Wednesday, August 19 – Sherrard Fire Station
Wednesday, August 26 – New Boston Fire Station
Wednesday, September 2 – University of Illinois Extension, 702 SE 3rd St, Aledo
Wednesday, September 9 – Keithsburg City Hall Gym

All meetings begin at 5 p.m. with light refreshments provided.

WHY: Mercer County's Hazard Mitigation Plan will comply with FEMA and IEMA regulations that will allow the County and participating cities and villages to apply for federal and state funding specifically earmarked for hazard mitigation. Many of the mitigation strategies can also provide useful information to local residents and businesses on how to reduce their potential hazard risks.

CMMT: A Steering Committee, comprised of members from the city and village departments, has been formed and will meet on a monthly basis. Their first meeting was held on July 14 at the Aledo Fire Station.

The Committee will meet to review what can be done to reduce the safety hazards, health hazards, and property damage caused by floods, tornadoes, winter storms, earthquakes, and thunderstorms. They will also guide efforts to realize completion of the Hazard Mitigation Plan.

-end-

October 29, 2009 **Contact:** Jennifer Hamerlinck, RN, Director Mercer County Emergency Management Agency, (309) 582-3759, jhamerli@idphnet.com

MEDIA ADVISORY

Mercer County Residents' Opinions Needed for Hazard Mitigation Planning

WHAT: The Mercer County Emergency Management Agency is asking Mercer County residents for their input in the development of a plan to lessen the impact of natural disasters on residents and communities in Mercer County. "It is clear to us that we need the opinions of those who live and work in the County," said Jennifer Hamerlinck, director of the Emergency Management Agency.

Mercer County is subject to floods, tornadoes, winter storms, drought, and thunderstorms. It is also in a risk zone for earthquakes. "Our intent is to gain their insights as to how to prepare for any of these natural disasters before they happen," Jennifer continued. Mitigation planning reduces the physical, social, and economic impact to residents and property when a natural disaster occurs.

Survey Locations:

Surveys can be filled out online by going to http://cads.extension.uiuc.edu/ and click on the ***Surveys*** tab. Then click on the ***Mercer County Hazard Mitigation Planning Survey***.

Residents can also fill out and leave behind surveys available at these locations:

Mercer County Health Department, 305 NW 7th Street, Aledo Mercer County Courthouse, 100 SE 3rd Street, Aledo

University of Illinois Extension Office, 702 SE 3rd Street, Aledo

City and Village Halls in Aledo, Alexis, Joy, Keithsburg, Matherville, New Boston, New Windsor, North Henderson, Reynolds, Seaton, Sherrard, and Viola

Libraries: Mercer County Carnegie Library, Aledo; Sherrard Community Library, and Viola Public Library

Businesses: Country Bank, Aledo; 1st Community Bank, Aledo and Sherrard; Farmers State Bank of Western Illinois, Aledo, New Windsor and Viola; Freedom Bank Seaton; Jim's Barber Shop, Alexis; Joy State Bank, THE National Bank, Aledo, and YMCA, Aledo.

WHY: Once completed, Mercer County's hazard mitigation plan will comply with Federal Emergency Management Agency regulations, allowing the County and participating cities and villages to apply for federal and state funding specifically earmarked for hazard mitigation. Many of the mitigation strategies will also provide useful information to local residents and businesses on how to reduce their potential hazard risks.

A Steering Committee, comprised of members from the city and village departments, has been meeting on a monthly basis. Town hall meetings have been held in various communities, as were sessions with industry sectors, including health and human services, agriculture and natural resources, transportation, business and development, arts and culture, and education. Planning efforts are being led by the Mercer County Emergency Management Agency that has retained the services of University of Illinois Extension to develop the plan.

###

Appendix F - Minutes from Committee Meetings

Hazard Mitigation Planning
Meeting of Mercer County
July 14, 2009

Present:

Aledo: Mike Sponsler
IEMA: Lisa Graff, Jarod Owen
Joy: Adam Russell
Keithsburg: Terri Gibson, Maxine Henry
Mercer County: Dewayne Fender, Tom Harris, Dennis Litwiler, Tina Matlick, Dean Olson, Thomas Thompson
University of Illinois Extension: Jenny Garner, Carrie McKillip

Carrie reviewed that we are required to show a $7500 in match for Mercer County. We will do so by tracking volunteer time either at each Committee member's salary rate or at the allowed $10 per hour rate if member is retired.

Each jurisdiction must have a representative on the HMP Steering Committee, and we attendance will be tracked at these meetings. Attendance at the Steering Committee meetings is required for the jurisdicition to adopt the plan. Only those jurisdictions adopting the plan are eligible for FEMA funding streams.

Hazard mitigation planning is not limited to flooding. For example, emergency services for roads due to snow drifting is an eligible option. During the planning process, the Committee was advised by IEMA to avoid including only items that can be funded locally but rather to look at larger federally funded projects. FEMA gives everything a number and combines the public and individual assistance. Mitigation receives 15% of these funds. The Committee was also apprised to not look at the funding in terms of expiration dates.

The Hazard Mitigation Plan encompasses the entire County that includes all cities and villages. The intent is the complete the plan by the end of the year, at which time it is submitted to FEMA for approval. Once that is obtained, the participating jurisdictions will need to adopt the plan.

Mercer County is participating in the Illinois State Water Survey, and IEMA is doing the Hazards US (HAZUS) analysis for the County. MH is multi-hazard. HAZUS is a software program that assesses hazard and draws on databases such as the US Census to predict a disaster. Examples include estimate critical facilities, dollar amount and percent damages to different structures, loss of revenue, debris generated from floods, and so forth.

GIS will also be used in the planning process.

A critical facilities list was distributed. Discussion was held on other facilities for inclusion: nursing homes, highway garages, VFW Hall. Jennifer Hammerlinck has a list that the Committee will review in greater detail.

Coal mining was also discussed. It's more of a zoning issue and understanding where problems have occurred in the past. Length and severity of droughts need to be included.

Four public meetings have been scheduled in Sherrard, Aledo, New Boston, and Keithsburg.

Focus groups need to be scheduled for seven categories:

Agriculture and Natural Resources
Public Safety
Health & Human Services
Utilities
Business and Development
Transportation
Education, Cultural & Historical

A list of groups / organizations that could make contributions to each category was distributed. The Committee was asked to review for other groups / organizations missing from each of the category lists, and discussed whether or not Governmental Entities focus group. It might be sufficient if there is a continuity plan in place. Consensus was that we won't include at present but might look at inclusion later.

These inclusions were identified:

Add churches to Health & Human Services
Add Ameren and MidAmerican to Utilities
Add every city / village water department to Utilities
Add Aledo and New Boston gas department to Utilities
Add all waste services to Utilities
Add all phone companies to Utilities
Add FS Crop Services Production to Agriculture and Natural Resources
Add LiquiGrow and Bay Hill to Agriculture and Natural Resources
Change Animal Control to Chris Brewer
Add nursing homes and elderly housing units to Health & Human Services
General Grind & Machine should be added to Business and Development
Add Johannes Bus Services and Mercer County Schools to Transportation

The next Steering Committee meeting is scheduled for 5 p.m. on Tuesday, August 11, at the Aledo Fire Station. Incorporated jurisdictions must attend these meetings.

The Committee was asked to collect existing planning documents, and provide them to Jenny Garner.

A public citizen survey was also distributed to the Committee for review. The survey will be distributed by Jennifer Hammerlink's office.

The meeting adjourned at 4:05 p.m.

Mercer County Hazard Mitigation Steering Committee
Tuesday, August 11, 2009 at 5:00 p.m.
MINUTES

Present:

Mercer County: Dean Olson, Tom Harris, Thomas Thompson, Jennifer Hamerlinck
Aledo: Julie VanMelkebeke, Mike Sponsler, Bob Vickrey
Joy: Adam Russell,
Keithsburg: Maxine Henry, Arnold Askew
Alexis: Jim Olson
Sherrard: Terry Ayers
Matherville: Larry Adams
Viola: Kirk Doonan
New Windsor: Clayton Brendal, Mike Peterson
University of Illinois Extension: Carrie McKillip, Al Kulczewski
Illinois State Water Survey: Kingsley Allan, Brad McVey

Carrie reported that today's activity would be to look at historical weather-related damage that has taken place in the past in Mercer County. Carrie distributed copies of a document prepared by the Illinois State Water Survey that summarizes previous natural hazards that have taken place in Mercer County. Steering Committee members were then asked to scale the risk level each category of natural hazard for each incorporated jurisdiction in Mercer County using categories of high, moderate or low risk. The ratings determined by the committee are listed in the table below.

Jurisdiction	Severe Storm	Flooding	Winter Storm	Drought	Extreme Temperature	Earthquake	Tornado
Mercer County	High	High	High	High	High	Moderate	High
Aledo	High	Low	High	High	High	Moderate	High
Alexis	High	Low	High	Moderate	High	Moderate	High
Joy	High	Low	High	Moderate	High	Moderate	High
Keithsburg	High	High	High	Low	High	Moderate	High
Matherville	High	Moderate	High	Moderate	High	Moderate	High
New Boston	High	Low	High	Low	High	Moderate	High
North Henderson	High	Low	High	Moderate	High	Moderate	High
Seaton	High	Low	High	Moderate	High	Moderate	High
Sherrard	High	Low	High	Moderate	High	Moderate	High
Viola	High	Low	High	Moderate	High	Moderate	High
New Windsor	High	Low	High	Moderate	High	Moderate	High

Carrie then shared that the Illinois State Water Survey printed maps of each incorporated jurisdiction in Mercer County. Steerin g Committee members were then directed to look at each map and identify critical facilities on each map using colored sticky notes by the following categories:

Vulnerable populations – purple
Emergency responders – green
Places of large assembly – pink
Emergency shelter facilities – blue

Carrie reported that focus group meetings will be scheduled in the next six weeks. Carrie also shared that public meetings are scheduled for 5 p.m. on the following dates and locations:

August 19 – Sherrard
August 26 – New Boston
September 2 – Aledo
September 9 - Keithsburg

Carrie also announced that the next Steering Committee meeting will be conducted on Monday, September 14th at 5:00 p.m. at the Aledo Fire Station. At that time the Illinois State Water Survey will have available a county wide map with updates.

Mercer County Hazard Mitigation Steering Committee
Monday, September 14, 2009 at 5:00 p.m.
MINUTES

Present:

Mercer County: Maxine Henry, Jennifer Hamerlinck
Aledo: Mike Sponsler, Dennis Litwiler
Keithsburg: Arnold Askew
Sherrard: Terry Ayers, Donald Schnowski, Dianne Graham
New Boston: Brian Mills, Chris Neeld, Dustin Marston, David Schrock
University of Illinois Extension: Carrie McKillip, Al Kulczewski, Jeri Marxman

Carrie McKillup reviewed with the steering committee that four public meetings have been held in Sherrard, New Boston, Aledo and Keithsburg. At each of the meetings participants were asked to identify critical facilities in each jurisdiction and to express their ideas for hazard mitigation. Carrie also shared that letters of invitation have been sent inviting people to attend the focus groups that will be held on October 8th and 9th. The information collected at the focus groups will then be shared with the steering committee at the next meeting.

Carrie then reviewed the public survey distribution plan. She reported that it will cost an estimated $2,500 to do a mass mail of the four page survey to every household (estimated 8,000) in Mercer County. Carrie then sought thoughts and ideas from the steering committee on other possible ways that the survey could be distributed throughout the county at less cost. Some suggestions made included:

Distributing the survey through the schools.
Making copies of the survey available at Aledo City Hall, senior centers, and other businesses.
Insert the survey in the Aledo Times –Record. The newspaper goes out to an estimated 3,300 households in Mercer County.
Include the survey in the Mercer County Farm Bureau newsletter.
Distribute the survey at service club meetings& Aledo Chamber of Commerce

Carrie shared that the steering committee must now establish a set of hazard mitigation planning goals. She distributed to the committee members a list of goals that had been adopted by five different counties in three states and suggested that the steering committee now brainstorm and help to create suggested goals for Mercer County. The steering committee then drafted the following goals:

Goal 1- Life, Health and Safety (Kankakee County #1 and Sangamon County #2)
Protect the lives, health and safety of the people and animals of Mercer County from the dangers of natural hazards/impact and effects of natural hazards.

Goal 2- Protecting Private Property (Howard County, Missouri #1)
Implement procedures and actions that will protect life and private property in the event of a natural hazard.

Goal 3- Infrastructure (Sangamon County #3)
Protect existing infrastructures and design new infrastructure to be resilient to the effects of natural hazards (roads, bridges, utilities, water supplies, sewers, levies)

Goal 4- Communications (Sangamon County #1)
Maintain and improve communication and cooperation between Mercer County residents, government, and the private sector.

Goal 5- Emergency Response (Rock Island County #2)
Minimize the need and expenditures for rescue and relief efforts associated with all hazards.

Goal 6- Reduce Effects of Natural Hazards (Prairie County, Montana #3)
Reduce the impacts of natural hazards including tornados, flooding and winter storms.

Jennifer Hamerlinck suggested that we find data on the impact of flooding on farm ground in Mercer County.

Carrie then passed out copies of the Hazard Mitigation Ideas sheet and asked steering committee members to write down their ideas and submit the completed sheets to Jenny Garner who will compile the information.

The next Steering Committee meeting will be held on Tuesday, October 13th at 5:00 p.m. at the Aledo Fire Station.

Mercer County Hazard Mitigation Steering Committee
Tuesday, October 13, 2009 at 5:00 p.m.
MINUTES

Present:

Mercer County: Maxine Henry, Jennifer Hamerlinck
Aledo: Dennis Litwiler, Dean Olson, Mike Sponsler
Keithsburg: Teri Gibson
University of Illinois Extension: Carrie McKillip, Jenny Garner

Carrie then passed out copies of a compiled list from submitted through the Hazard Mitigation Ideas sheets, and notes taken at the focus group sessions. Those categories included Agriculture & Natural Resources, Utilities, Transportation, Education/Cultural & Historical, Health & Human Services, and Business & Development.

We need to finalize how surveys will be distributed. Updated mailing list revealed 6,600 households in Mercer County. Al Kulczewski was to check into the newspapers. Carrie also has a link to an online survey. Jenny will forward to County-based websites: Aledo, Sherrard, Keithsburg, Extension, Extension Mercer EDP, and Mercer County. She will also ask WRMJ to put a link on their website. Surveys can also be placed at the libraries, banks, and the Mercer County Courthouse. Media advisory will be sent to the local media, and will ask the mayors to announce at their council meetings and have available for citizens to fill out. Ideally, citizens will be asked to fill out the survey then and there, as opposed to returning it.

Each jurisdiction will be asked to provide a minimum of 100 completed surveys.

Objectives were established for the six goals as follows:

Goal 1- Life, Health and Safety: Design and implement mitigation projects that will protect the lives, health and safety of the people and animals of Mercer County from the dangers of natural hazards.

Objectives
Establish safe locations for all Mercer County residents and animals in the event of natural hazards.
Ensure that all Mercer County citizens are educated about preventive measures in the event of natural disaster.
Establish and implement a County-wide early notification system for natural hazards.

Goal 2- Protecting Private Property: Implement procedures and actions that will protect life and private property from natural hazards.

Objectives
Establish and maintain County-wide zoning requirements to protect new development and existing neighborhoods from harm, and address increased risk of placing livestock in a flood zone.
Identify potential properties for acquisition and / or elevation projects.

Goal 3- Prevent Damage to Infrastructure: Develop plan to both protect existing infrastructures and design new infrastructure to be resilient to the effects of natural hazards.

Objectives
Evaluate infrastructure needs and identify vulnerable areas in Mercer County.
Map and GIS infrastructure facilities in Mercer County.
Establish policies for new infrastructure development.

Goal 4- Improve Communications: Develop methods and procedures to maintain and improve communication and cooperation between Mercer County residents, government, and the private sector before and during a disaster.

Objectives
Establish a non-power-dependant communication system.
Explore a reverse 911 system.
Establish a centralized communication center.

Goal 5- Emergency Response Minimization: Develop projects and systems that minimize the need and expenditures for rescue and relief efforts associated with all natural hazards.

Objectives
Identify common use need areas for emergency temporary power.
Resource and inventory typing of emergency response resources.
Create education and prevention campaigns to assist emergency responders.

Goal 6 has been changed to the Mission Statement: Create projects that will reduce the impacts of natural hazards on all communities and rural areas of Mercer County, including tornados, flooding, and winter storms.

Steering Committee Homework due November 10:

Steering Committee members are to utilize the jurisdictional project grids to identify projects from the focus group notes that would be good for your jurisdiction.
A County-wide grid will also be created.
It is important that you keep track of your time for the match. Be prepared to report at the next steering committee meeting.
List any projects that each jurisdiction might already have in mind.

The next Steering Committee meeting will be held on Tuesday, November 10, at 5:00 p.m. at the Aledo Fire Station.

Mercer County Hazard Mitigation Steering Committee
Tuesday, November 17, 2009 at 5:00 p.m.
MINUTES

Present:

Mercer County: Maxine Henry, Dean Olson
Aledo: Dennis Litwiler
Keithsburg: Arnold Askew, Terri Gibson
University of Illinois Extension: Carrie McKillip, Jenny Garner

The Mercer County Hazard Mitigation Goals and Objectives was distributed and reviewed by the Steering Committee. Projects will be prioritized with possible funding sources identified. Some of the projects will be "just do it" and will not require funding to proceed.

Once the hazard mitigation plan is done, technical assistance can be provided through Extension's Illinois Resource Net program.

Water Survey is completing the HAZUS and maps. A demographic profile of Mercer County was also distributed and will be included in the report.

Discussion turned to Mercer County projects (ref. jurisdictional project grids). Additional comments: Wording on the Mercer County storm shelters will be changed to reflect the separate jurisdictions. Investigate including a zero run-off zoning policy. Identify policies and procedures to ensure everyone is aware of weather-related issues affecting the roads. Ensure emergency and highway personnel are aware of emergency routes. Establish a central check-in policy for vulnerable populations. Create list of snowmobile and four-wheeler owners in the County. Identify high risk flash flood areas and obtain permanent signage structure. Develop a public awareness campaign for all risks associated with natural disasters. Identify and work with facilities to have an evacuation plan for vulnerable populations.

FEMA will fund the updates of the projects if they see things moving forward. Another benefit is getting people to work together.

The Village of Sherrard sent along their jurisdictional project grid. Hook up Sherrard water system with Fyre Lake well.

The City of Aledo identified life and safety issues that included special needs in their project grid. Develop public education campaign, identifying WRMJ as the resource for emergency updates after upgrading the transmitter with back-up power.

The City of Keithsburg identified their issues. An updated emergency warning system is needed. Proper wording will need to be identified for a project to eliminate the division to the town when a flood occurs. Make sure emergency supplies are in place for all natural hazards. Carrie will also check with Jarod to see if supply of ice can be included in the plan.

A County-wide emergency supply should be developed and available for use. Mercer County operates a food pantry. Storage would be an issue.

Should a mutual aid agreement be developed that outlines when to go into another jurisdiction and when to stay in your jurisdiction? The fire departments are linked through MABAS. Beyond the fire departments, it would be good for all of the jurisdictions in the County to have this type of agreement. For example, it would be helpful for debris removal.

The next Steering Committee meeting will be held on Tuesday, December 8, 5:00 p.m. at the Aledo Fire Station.

Mercer County Hazard Mitigation Steering Committee
Tuesday, February 16, 2010 at 5:00 p.m.
MINUTES

Present:

Mercer County: Jennifer Hamerlinck, Maxine Henry, Tom Thompson
Aledo: Dennis Litwiler, Mike Sponsler
Keithsburg: Arnold Askew, Terri Gibson
Sherrard: Al Zwilling
New Windsor: Clayton Brendal, Mike Peterson, Ralph Smith
University of Illinois Extension: Carrie McKillip, Jenny Garner

The Extension team was asked if we could add NFIP to every community's project grid, because we know that FEMA likes to see that inclusion. We have to go through and calculate the probability of each severe weather event.

The draft document was distributed and reviewed for final revisions.

Every jurisdiction will utilize the components of the plan to make any decisions.

Any edits or changes need to be emailed to Jenny by next Monday, February 22, 2010.

The town hall meeting is tentatively scheduled Thursday, March 4, 6:00 p.m., at the Aledo Fire Station.

Mercer County Hazard Mitigation Planning
Focus Group Session: Agriculture & Natural Resources / Public Safety
Thursday, October 8, 2009

Present: Paul Wicks, Aledo Veterinary Clinic; Robert Millikan, Viola Fire Department; Dennis Litwiler, Aledo Fire Department; Dr. Jeremy Joy, All Animal Health Care; Frank Wheeler, Seaton Fire Department

The sessions are to obtain input from a variety of sectors, as to what can be done to reduce risk hazards in relationship to their type of organization. The Steering Committee has gone through the process of identify risks in Mercer County, as well as six different goals with regard to hazard mitigation.

An example mitigation strategy that FEMA recognizes is to build high mounds where there are ranges for livestock to go in the event of flash floods.

Severe storms: You will have power outages as a result. The Utilities group felt that trees were well maintained in the County. It would be good to have training with city and county officials to implement plan to identify potential hazardous trees on an annual basis.

A draw on the grid is back feed. A lady was killed last year. There was an accident and the lady got out to help. A generator fired up at a nearby farm, and there was a back feed in the line over the car where she was trying to get the people out.

There are a lot of confinement areas. Mercer County has quite a few, e.g., 6 in Viola alone and probably 30 if not more total. Most of them have a permanent set-up. If that power goes off for longer than 5 minutes, something is going to kick on. If the power goes off and it's 105 degrees, would hog confinements be affected. No, becase they are are using natural filtration systems.

Road closures result because of downed trees. Only two cars are available for the whole County to handle this situation.

The wind storm resulted in millions of dollars in house damage. The only way from Seaton to Aledo was by the back roads. The wind was blowing 30-40 miles per hour and within hours Seaton Fire was contacted to set-up a warming station. There is also the issue of providing meals.

Identifying heating/cooling shelters and storm shelters in each community is considered a high priority for Mercer County's hazard mitigation plan.

Will these shelters have accommodations for pets? Other communities use schools that are set-up as warming shelters with a separate area for the pets. The owners are responsible for their pets; they're not allowed to let them run around. If we put air conditioning in the school, we would have to go to year-round school.

Tornado shelters need to be close enough that people can run to them, but heating/cooling can be accessed by driving. Emergency shelters are usually shorter term stays.

Floods: The problem with the livestock in general is compliance with premise identification number. So when it floods, you know to look for cattle at the identified location or hogs in another identified location. This is a Department of Agriculture recommendation. Livestock owners can generate a map online and get it to the County emergency people. The information is already out there for the ones who have done it. So it would be a matter of encouraging participation in that process. This doesn't capture when maybe someone is on vacation and they information isn't up-to-date.

Maintaining compliance with NFIT, such as keeping chemicals out of the flood plain, is an important consideration.

Drought: Making sure the water supply is there for the livestock and firefighters is a real issue. Make sure that everyone is aware where you can go to fill up big tanks. A lot of that is dependant on the water supply.

Extreme Heat: When you get into the extreme heat situation, what do you do with the pets again? Most of the stuff with extreme heat is to educate the livestock owners to start watering their livestock down and use misters. It's important that they understand the heat index.

Is there a good distribution center to get out information? The Farm Bureau does a good job of getting that information out. A lot of the farming community also comes to Extension.

Earthquake: A big one would be the water supply with fracturing pipes underground. Probably include everything with the other natural disasters. Is there education that needs to be done to warn people to stay out of buildings? Some people think that when it stops, it's okay to go back inside.

Does Public Safety run drills? No; not for earthquakes. This area of the state is actually at greater risk for earthquakes than severe drought. It has more to do with the climatology patterns rather than water access. Some sort of training and education would be advantageous.

We need to address school plan to keep the children in the building in the event of an earthquake. No building is safe in the event of an earthquake. Earthquake plan should be similar to the fire plan.

Tornadoes: What are the affects on people, property, pets, and livestock? There is not enough warning to protect livestock but it is possible to secure pets. If you're going to have tornado shelters, you need to have a plan for pets. Should look at an education campaign where people identify which room is the best for them to go, or maybe some type of public service announcement.

There is a new standardized warning system in Mercer County. The Weather Bureau notifies the Sheriff's Department, and then spotters are sent out. We are following the Quad Cities tornado procedures. There is training for spotters. The Fire Departments are the spotters. It's an advantage to have the firefighters out there because they already have a communication system. That's also when you've got people out there pilfering stuff. The Sheriff's Department is out there, too. The alarms won't be sounded until 70 miles per hour winds or if a tornado warning is issued. Previously, each jurisdiction sounded to alarm based on a judgement call. Seaton sends a truck up to the area of town that can't hear the sirens.

Use of a reverse 911 system would be helpful. People think when they hear an outdoor siren, they think it's just a test of the warning system.

Cont. next page

Winter Storms: It would be helpful in the event of a heavy snow storm to identify snowmobiles that can be used. We've had people come through on Highway 67 and they get stuck in Viola with nowhere to stay. Some things that could be done is to increase patrols. Socks and gloves are available with warmers in them. Emergency services should have adequate supplies of those to keep their extremities warm. They currently don't have these supplies. Making sure they have adequate protection is as important as checking on the people.

Power, water supply, and shelter are the three main things.

Flash Floods: Even something as simple as putting up signage in areas where flash floods occur is an effective mitigation practice. Flashing signs may also be useful for particularly problematic areas. Some people are going to drive out in it anyway. In most of the rural areas, there is debate if road commissioners are putting up signs quickly enough. There are a lot of people at night driving around, such as those working second shift. It's so dark on rural areas that it's more difficult to see.

Satellite control of flashing lights from that area allows a central location to know immediately if something is happening and activate it remotely. Most of these are solar powered.

The Emergency Command Center does not have a generator, so if there is a power outage, it gets moved to the Fire Station. There should be an emergency generator. In the past, they usually meet before the disaster happens to make decisions if it does happen. But if you have a tornado, you cannot pre-plan. Not sure if there's a protocol set to activate it. The Emergency Command Center serves all of Mercer County, and is probably under-utilized. It depends on the area that gets hit.

They are all bound by the Mutual Aid Box Alarm System (MABIS). Apparently, more money is appropriated to through the Grant Programs Directorate (GPD). The funding for firefighter's training through the Illinois Fire's Marshal Office's Cornerstone program is gone.

Contamination of the water supply is a good thing to add as a risk for protecting livestock.

The reverse 911 would be the best deal out of this whole thing, followed by a remote activation /signage warning system.

FEMA just realized more training dollars for firefighters

Mercer County Hazard Mitigation Planning
Focus Group Session: Business & Development
Friday, October 9, 2009

Present: Don Mathe, Farm Bureau; Rex Johnson, Midwest Bank; Diane Sharp, Aledo Chamber of Commerce; Sandy Bull, THE National Bank; Justin Cook, State Farm Insurance

The sessions are to obtain input from a variety of sectors, as to what can be done to reduce risk hazards in relationship to their type of organization. The Steering Committee has gone through the process of identify risks in Mercer County, as well as six different goals with regard to hazard mitigation.

Think of severe storms and potential impact they have on the business community. Power outages lead to inability to conduct business. Downed trees limit travel. Basements fill up with water. An early warning system would be helpful.

Banking systems can print of their balances before the power goes out. Redundant power supplies, such as generators, as back-up would be helpful for continuing business. For larger organizations, databases are stored on a server so could be easily accessed if there was emergency power. Smaller businesses likely don't have this luxury.

How about grocery stores and pharmacies? Without a back-up emergency power, refrigeration becomes a problem. The lack of cash registers makes it difficult for cashiers to figure out what to charge.

Improve the efficiency of recovering from the outage.

Are there any large emergency generators in the County? City Hall, Mercer County Hospital, Mercer County Nursing Home, and probably the Fire Department. Reverse 911 is being looked into to warn of an emergency. Having that early warning gives them opportunity for safety of the people in the building. If you knew it early in the morning, you could call your employees and tell them not to come in.

What about floods? The businesses in Keithsburg are at high risk. Down there, it's just a matter of time before it happens again.

Agriculture is impacted with flooding of their fields from the Edwards River and so forth. The group was unsure if farmers have flood or crop insurance. There are some places were crop insurance is prohibited because it's a high risk area. Last September, we had all of the rain. On the insurance side, that's considered flood water. It affected a whole lot of residential areas.

Maybe a brochure can be developed to get out to the insurance agents to educate home and business owners. Clarification is needed from FEMA with regard to anybody can buy flood insurance.
Most people won't purchase it because flood insurance is usually more than the entire homeowner's policy. Matherville sits up so it's curious as to why flooding is a moderate problem. There's a draw that goes down through that is susceptible to flooding.

Unless your business has its own well, is there anything that would be affected by drought? Why was Aledo rated high for drought? Ask the steering committee.

What about extreme heat? As long as we've got power to run the air conditioners, it shouldn't be a problem. There's a concern that elderly on a fixed in come are reticent to turn on their air conditioners. More problems with vehicles not starting in extreme cold.

Earthquakes: The State Geological Survey ranks this area for moderate risk. Do the businesses have a plan in the event of earthquakes? In reality for an earthquake, you should be evacuating the building as quickly as possible. We have a fault running through this area.

We should at least have some type of education campaign for an evacuation plan, similar to a fire plan. Someone would have to be responsible for making sure that exits are clear. Probably 20 to 30% of homeowner policies have earthquake insurance. It's even more important if they have a brick façade. Either a lot of insurance companies dropped it totally or they raised the rates. Everybody is going to think they have it covered in the event of an earthquake but it's not the case. When I mention earthquake coverage, people look at me like I'm crazy.

I remember one earthquake being a little more severe – things were shaking and falling off the wall. If your house is destroyed, a 5 to 10% deductible is not a problem. Probably the biggest thing is to get people out and to keep them out until all services are checked. People often feel that they have to stay and protect what they have.

With regard to tornadoes, do any of you have wind resistant structure on your facility? One of the grain bins popped off their foundation during a big wind, everyone headed for the basement. What about building on slabs? Is it a concern? No basement is going in because it has to be handicapped accessible, even if the public doesn't have to access it, so it is cost prohibitive to put in a basement.

Because of the number of slabs, the reality is they need to be of wind resistant construction or tornado facilities need to be accessible. FEMA recognizes that there should be several tornado facilities in each jurisdiction. What designates wind resistant construction? Engineers have that information. The Courthouse is a fallout shelter. Country Bank's basement is solid concrete with concrete overhead. These buildings could meet those qualifications.

Just like the businesses in downtown Aledo, do any of those buildings have basements? The Times Record, Yesterday's Treasures, Don Zook's building, and Garden Family have basements.

One thing we could do is find someone qualified to make structural assessments to determine if any buildings in Mercer County meet requirements. Typically it has to be public buildings for FEMA money.

How about winter storms? I think it's the same thing as with a power outage for severe storms. Driving conditions might be an issue.

Is there a liability if businesses don't close down due to ice? You can get sued for anything. Other than emergency services, do most businesses have the ability to say we're closed? Yes; businesses will close for ice storms and blizzards.

Grocery stores promote upcoming storms to move produce. If we don't promote the upcoming storms, then the media gets blamed. Conversely, if they also get blamed if there's heavy promotion and nothing results. It's a situation where they can't win.

Maybe businesses should keep provisions on hand in the event employees can't get home safely.

Extreme cold: Water lines breaking as a result of extreme cold. Are the vacuum tubes used by banks a problem? Not really. The drawers can still be used and it's really not a critical need.

In terms of rains all at once, is there any problem with the business community? No; only if there weren't drainage systems in place.

Does the County have adequate codes in place for businesses, such as ordinances, zero runoff policies, laying several acres of concrete, that could affect others? Yes, we have enough codes in Aledo but maybe it needs to be looked at for the rest of Mercer County. We've got a whole water retention system that was put into place that was all regulated by the Illinois EPA. The rule states that your water cannot leave your property faster than a 24-hour period than it did before the building was constructed. He's had to get several different permits from water, sewer, and so forth from either IEPA or IDOT.

We will check on it but it is felt that Aledo has adopted the International Building Codes, but is not adopted through the rest of the County. The reason for doing so was in anticipated of the State's future regulation of building codes.

For us, it really doesn't matter what the hazard is at the time. It all boils down to power and ability to serve customers.

Mercer County Hazard Mitigation Planning
Focus Group Session: Education, Cultural & Historical
Thursday, October 8, 2009

Present: Bill Fleutte, Apollo Elementary School; Sue Wilson, United Elementary

The sessions are to obtain input from a variety of sectors, as to what can be done to reduce risk hazards in relationship to their type of organization. The Steering Committee has gone through the process of identify risks in Mercer County, as well as six different goals with regard to hazard mitigation.

Planning: Apollo Elementary's district utilizes a crisis plan. Format is it hangs off a hook, and there are tabs to flip to the crisis at hand.

What are primary affects from severe storm? Power outage is the result. Trees no longer pose a threat. Windows would require quite a force to have a negative effect. Windows are tempered so they are meant to shatter into small pieces. Doors have wire inside the glass. Emergency lights come on in the event of power outage but no emergency generators.

Emergency generators for storm shelters and/or tornadoes, and wind resistant construction facilities are mitigation solutions. The locations of these schools are on the very west end, and there are no other structures. So there's nothing to block the path of a tornado. The schools do drills for fire, tornadoes, and lock downs (police) with someone already in the building and an outside threat.

What do floods impact? Kids are displaced and need to be relocated. It may impact the bus routes, e.g., Henderson Creek, Mississippi River, etc. over the roads. Our best bet is to pray.

What about drought? Neither of these schools have wells. Question was raised if this was the case for Sherrard. If it was that dry and the corn stalks went up in flames, it could be pretty quick.

Power: Sherrard has a windmill. If power knocks out electricity, does the windmill generator enough power? Does it go directly into the school? Does it have an outside power source to get it into the building? It probably costs more than a generator but it's consistent and green.

With regard to extreme heat, are schools air-conditioned? No; they are partially air-conditioned. The cost benefit of installing it has to do with when school is in session. When children have health issues, overheating and signs of dehydration can occur. Perhaps this is an education piece within the school system. The coaches are exposed to this education but not the teachers. Kids are allowed to have water bottles at their desks when it's hot. It's more apparent now because we've become acclimated to living in air conditioning, and weight and asthma issues.

Lightening: Another education piece can address lightening. If there's any lightening, you clear the field. Sensors can be installed to detect the presence of lightening even if it's not visible to the human eye. More people are killed by lightening than is commonly known.

Tornadoes: In addition to maintaining a drill system, is making a room available for this purpose would be a good idea. It would be nice to have someone who's an expert on tornadoes to come to the school and tell them were to put their kids or if there's no place in the existing facilities to put the kids. Having a school building assessment for safety zones would be a good mitigation tool.

Winter storms (snow and ice): If they know early enough then school is called off. If the storm occurs during the day, what provisions are there to get the kids home safely? If it looks like there's a chance for it, you'll call it right away and send the kids home. Snow days are usually freezing rain not snow.

What about building damage from ice or snow load on roofs? The newer roofs are coming with some type of pitch but most have the flat roofs, so snow load could be a factor. They would have to get an awful lot of snow and then ice on top of it for it to be a real problem.

Extreme cold: Last year when we had the extreme cold, the panes on the outside school doors just popped off. The metal contracted so much that it just exploded. School is usually cancelled because you don't want them on the buses. Pipes freezing shouldn't be a problem. Each room has its own furnace and air conditioners. Power lines snapping is also an issue. If you have kids in the building, you don't want them to be able to access the downed power line in anyway. You would have to keep the kids inside until the situation was addressed.

Flash floods: Whoever put siding in Apollo's courtyard put the flashing on backwards, so that caused a problem. Once it was fixed, it was okay. Monitoring storm water drainage needs to be done in school areas. You can't put in a retention pond in the schools. You can also put in covered dry wells that are part of a drainage system.

Notification: Both school districts have auto calling systems. In Monmouth, it was about $3 per child. The problem is people change their phone numbers like people change their underwear.

Mercer County Hazard Mitigation Planning
Focus Group Session: Utilities
Thursday, October 8, 2009

Present: Steve Moller, City of Aledo; Terry Ayres, Village of Sherrard; Brian Hirl and Stan Rosener, MidAmerican Energy; Kim Sheetz, Frontier Communications

The sessions are to obtain input from a variety of sectors, as to what can be done to reduce risk hazards in relationship to their type of organization. The Steering Committee has gone through the process of identify risks in Mercer County, as well as six different goals with regard to hazard mitigation.

What kind of effects do severe storms have in relationship to Utilities? In Aledo, it wouldn't be significant because of downed power lines. There are very few underground residential single phased lines and grain feeds, although everything is relying on an overhead feed. MidAmerican doesn't have gas in the County. Ameren does have gas in Aledo. It would take an earthquake to create a problem with gas.

What could be done to alleviate risk with downed power lines? In a perfect world, everything would be an underground facility. MidAmerican is constantly reviewing its situation: poles, insulators, etc. to keep on top of the maintenance whether it's ice, severe wind, or tornado. In a severe circumstance, there's nothing that's going to stand up.

What about trees affecting power lines? The City of Aledo has instilled a tree maintenance program. Since the City has been caught up in the no power situation, two new generators have been installed. City Hall is now designed to be a command center, and the Fire Station is a warming station. When the ice storm hit, it pretty much crippled Mercer County.

The City has a good relationship with Ameren, who uses Nelson. MidAmerican uses Wright. You reduce the factor of trees falling in and taking out. Wright does a good job of keeping Sherrard cleaned up. MidAmerican is restricted to the easement corridor.

Does have hail have any impact? Hail doesn't affect MidAmerican unless it's associated with another storm. Occasionally it may knock out a disconnect device but hail itself isn't a problem; it's the storm associated with it.

Are there opportunities for educating residents with regard to their trees? If you are going to give them something for nothing, they will participate. If you want their financial involvement, they'll pull the shades.

If cities were to enact some codes for new development, e.g., new trees or vegetation can be planted that will interfere in the future, would that be possible? Or even existing? For a prevention program, residents would need to be educated that the top of that tree or the whole tree has to be removed. The County could implement it, and the towns could take control from thereon.

What about floods? It would affect gas lines. It also affects the City of Aledo's lagoon system because they're by the Edwards River. The City drops their flow line down. The south lagoon isn't generally a problem but the north lagoon can be. It would impact their sewers but shouldn't affect Aledo's gas.

It definitely can impact the electrical supply, too. Access to MidAmerican's facilities that need maintenance and can only be reached by boat. They've had situations with ice where it'll jack the poles out of the ground.

Flood plain management is a good way to prevent against hazard mitigation. FEMA is interested in seeing any property and lives out of the flood plain. Have any towns thought to upgrade their facilities, such as transformers, lagoons? Assume you had an open checkbook. So if there is something that would mitigate the risk, we want to include it on the project list. Aledo's facilities are out of the 100-year flood plain, but it would be beneficial to upgrade to a $13 million sewer treatment facility.

What about drought? Aledo provides water to a few of the communities when the wells start drying up. Maintaining the excess capacity sell-off is a mitigation strategy. Sherrard has a water issue, so they are looking at tapping into an additional water supply. Making sure people have safe and reliable water sources is crucial.

Is there a rural water system? Yes; the IRWA. Illinois Rural Water Association (IRWA) serves Mercer County. Aledo has its own water treatment facility, so does Joy but they're having some issues, too. Most everybody else is on a well system.

Is extreme heat an issue? It is for loading. The substations are constantly monitored for loads. It can affect transformers. Sometimes customers increase their load dramatically without notifying MidAmerican Energy. During the hot part of the summer, linemen do load and amperage readings on the systems so they have history for planning. Power outages as a result of extreme heat are sporadic and isolated, but whole circuits going down are unlikely.

Utilities monitor load usage per substation to manage the grid. It would be advantageous for the County to notify MidAmerican / Ameren with regard to permits for electrical work. Typically, an electrician is involved and notifies their engineers. In Rock Island County, the job's not released until the electrical inspector signs off on it. Aledo has this same process lined up, and Mercer County is also taking steps for this process.

How about earthquakes? It could be pretty minor or cataclysm. Access to facilities would be an issue. Ameren probably has the mass flow shut-offs for gas. For electric grids, wind studies are reviewed to cover earthquakes. Emergency generators are usually powered by natural gas, and you can have loss of natural gas. Generators can be switched to natural gas.

Access to natural gas. They're seeing a lot of small water units putting in small generators that are powered by natural gas. Cost depends on the well requirements and installation; runs between $5,000 and $6,000 or more. MidAmerican is seeing a lot of residential generators being put in.

Since it increases the potential load on the gas system, and how do you monitor it? They are not notified about the installation of these generators. When they know those generators are out there, they go ahead and make adjustments. They're popping up so vastly around Mercer County. We have all types of heat: electrical, natural gas, propane, and fuel oil. They're also seeing wood-burning apparatuses. The problem is unqualified people are putting them in. If they tap into Aledo's gas, everything is shut off. They are trying to do better public education to mitigate this activity. There are worse things in the world than being without water. Sometimes you have to do things to protect life and safety, especially when you're tapping into a natural gas line that can affect an entire community. Aledo had started adding it into a nuisance ordinance. If everyone starts going to tank-less heaters, it shouldn't affect natural gas. It would be good to make sure lines of communication are open between the jurisdictions and the service providers.

Can we do much for tornadoes? MidAmerican constantly does studies on storm response that includes tornadoes. What went right and what went wrong is evaluated after every storm. When we had those straight line winds come through, the footprint is generally larger than a tornado. A straight line wind event can span the entire County.
The emergency warning system is two stages with dual warnings. People are so used to the siren going off that if you changed that system, it causes confusion. They've looked at putting in a service contract. There are also battery back-ups.

A reverse 911 system is being explored. From a County-wide perspective, are you going to hear sirens in the rural areas?

What about ice storms? Aledo has a portable generator that they can transport. Frozen water hasn't been a problem but rather having the power to run the water. It generally causes access problems for emergency responders. One thing you have to consider is even with an underground grid, it's fed overhead. Here again, everything is designed with a wind speed, heat / cold tolerance, etc.

Is there some formula that this is good up to this amount of ice? Yes, that is correct. Computation is based on ice load per mile per hour wind. Live power lines done on the roads or people trying to travel in the icy roads.

What about extreme cold? Extreme cold reeks havoc on the support poles. Load usage by heavy users is also an issue. Natural gas has to be warmed before it goes through the pipes.

Can anything be done to mitigate the risk to the utility system because of extreme cold? MidAmerican has this factored into its maintenance plan. One issue that comes up is the wire gets really tight. The lines are constructed to have enough sag so when extreme load hits, it doesn't break lines and poles. They look at the tinsel strength.

How about flash floods? Does Mercer County have any zero run-off policy? Not sure about Mercer County, but a lot International Building Code deals with storm water run-off. Silt requirements through the Illinois EPA. In Aledo with an aging infrastructure system, they start backing up when they get a flash flood. In a town that is flat, it has a tendency to hit the street and goes. People want to blame it on urbanization but the increase in runoff the is due more to the field tile laid in the five states. The State has adopted the Storm Water Utility Act, which will eventually trickle down to the smaller communities. We are more interested in calculating the square footage of pervious versus impervious surfaces.

Would a public education campaign make sense? There is a program established by River Action but it hasn't made it this way yet. The Illinois Quad Cities is in the process of adopting the Storm water Utility Act and Davenport has a tax on it. Aledo is looking at an amnesty program. Rain barrel education is available through Extension.

Are there any flash flood scouring issues in Mercer County? No; that goes back to design. We want to make sure our facilities are in the clear. If new information comes through, MidAmerican will address it, e.g., move the pole, rock it in, etc.

Hazard Mitigation Planning for Mercer County
Town Hall Meeting
Wednesday, September 2, 2009
University of Illinois Extension, Aledo
5-6 p.m.

Background

During the process of creating a hazard mitigation plan, FEMA requires public engagement meetings. In addition to these public meetings, a steering committee meets monthly and focus groups are planned for seven critical areas to look at what can be done to mitigate risk.

Mitigation is any activity to lessen the impact of disasters to people and property. The Steering Committee looked at volumes of historical data that has impacted Mercer County. During that meeting, the Committee assessed risk for each natural disaster categories: severe storm, flooding, winter storm, drought, extreme temperature, earthquake, and tornado. The Committee then identified critical factors: vulnerable populations, medical facilities, emergency response services, and places of large assembly.

Once the plan is completed, Mercer County and each jurisdiction will adopt the Hazard Mitigation Plan that allows for access to FEMA funds. In addition to the plan, FEMA requires a plan maintenance committee that meets annually. Every five years, the plan is reviewed and approved by FEMA.

Examples of types of projects that can be included in hazard mitigation plans: building codes, promoting sound land use, structural retrofits, flood proofing retrofits, flood insurance NFIP, acquisition, informing the public, detention and retention basins, and communities implementing plans.

Open Discussion

Half of the weather sirens in Mercer County do not work properly so it is critically important for people in rural areas to get information. If people chip in small amounts of money, a community could do a reverse 911 targeted right to the area you want to go.

The beauty of having things like weather sirens on your hazard mitigation plan whether or not it's immediately fundable, you already have a document that says you need an item, service, etc. So we need to include these ideas in the process.

How about generators for well back-ups? No power = no water.

One of the churches attending the meeting knows who has wood stoves, pantries, etc., so they can immediately distribute people out to take care of their congregation. They're trying to get alternate source of power – wind or solar – so their people have someplace they can go to cook, make phone calls, take showers, etc. The church divided up into elders that go out and talk to people.

One of the reasons is Aledo is considered high risk for drought is because their water comes from 16 miles away. Extreme rural Mercer County is also very high risk for drought. If things are really dry and you don't have water, it's a problem.

Aledo's parks - Northside Diamond, Central Park, Fenton Park swimming pool - have events going on in the middle of open area that makes those populations vulnerable in times of disaster. Education is necessary for this element.

2396 – 15th Avenue, Alexis, is Norwood Presbyterian Church that could be used for large assembly. Kitchen is available in the basement, and is semi-handicapped accessible (chair lift). Sunbeam Presbyterian Church is on 40th about a mile east of Route 17. They have a community building that is used for voting – single story, easily accessible, with kitchen. They may have shower capabilities as well.

The Village of Hamlet is 8 miles north on Hwy. 94 at 170th Street/Avenue. It has a church and across the highway is the Village Hall that could be places of public assembly. Both are handicapped accessible.

A list of people who want to volunteer needs to be provided to Jennifer for coordination efforts. These volunteers will need training. An equipment list should also be created, e.g., off-round john boats, hover crafts , backhoes, ATV four-wheelers that could be used to move logs or for airplane wreck. A well-defined system that tracks volunteers and their time involved means that a community already their match in-hand for FEMA funds. In Adams County, the social service providers are responsible for volunteer tracking.

If the plan isn't workable for the community to use, the plan is useless. This is the reason to review the plan every year. One section of the original plan is plan maintenance. The purpose is to create a living document that is helpful for the communities involved.

An emergency contact list could be published in the newspaper in case a disaster occurs. Educating the people about what to do in the event of a disaster is mitigating the disaster. It could be that there is one central contact in Mercer County, and make sure that point of contact has the ability to respond. The group felt this was the best method instead of the by-community approach, and it probably shouldn't be on the Sheriff's Office.

We tried to publish the Aledo Fire Station phone number as a resource during the ice storm. What if the phone lines go down? That was our biggest hurdle in the ice storm. Once WRMJ went down, the news came out of the Quad Cities and it became fragmented.

Most of the village areas have marshals, so maybe provide all of them with the list so everybody has the same information.

Churches do this type of notification all of the time, because they use prayer chains. Each elder is responsible for 40 people, and they reached out to their assigned list during the ice storm. What happens when it gets so dangerous that you don't want elders on the road? There should be some type of system where the emergency responders would know who all had been contacted already by the elders. The responders also need to know if they have left their home.

Cancellation of church services or events is automatic through batch emails and cell phones that can support phone calls. Keeping a central list of who does need to be checked on. If you are dealing with 160 people and have 3 people that you can check on, then call the emergency responders about the 3 people.

An updated list of all township road commissioners is needed.

After every disaster, an assessment meeting should be scheduled. There is already an emergency response plan in place for Aledo. If there are plans in place, we just need to ensure that the people are informed.

Hazard Mitigation Planning for Mercer County
Town Hall Meeting
Wednesday, September 9, 2009
Keithsburg City Hall
5-6 p.m.

Background

During the process of creating a hazard mitigation plan, FEMA requires public engagement meetings. In addition to these public meetings, a steering committee meets monthly and focus groups are planned for seven critical areas to look at what can be done to mitigate risk.

Mitigation is any activity to lessen the impact of disasters to people and property. The Steering Committee looked at volumes of historical data that has impacted Mercer County. During that meeting, the Committee assessed risk for each natural disaster categories: severe storm, flooding, winter storm, drought, extreme temperature, earthquake, and tornado. The Committee then identified critical factors: vulnerable populations, medical facilities, emergency response services, and places of large assembly.

Once the plan is completed, Mercer County and each jurisdiction will adopt the Hazard Mitigation Plan that allows for access to FEMA funds. In addition to the plan, FEMA requires a plan maintenance committee that meets annually. Every five years, the plan is reviewed and approved by FEMA.

Examples of types of projects that can be included in hazard mitigation plans: building codes, promoting sound land use, structural retrofits, flood proofing retrofits, flood insurance NFIP, acquisition, informing the public, detention and retention basins, and communities implementing plans.

Open Discussion

Acquisition would be the buy-out; structural retrofits could be the building of storm shelters. We will have to get clarification from FEMA is if Keithsburg were interested in building up / elevating some of the buildings so they would be above the flood level. Would bracing and pouring footings meet compliance requirements?

Even though the floods precipitated this hazard mitigation process, the group was encouraged to look at other natural disasters.

The question was raised if the text messaging system works on cell phones, which was confirmed. It is one relatively secure way to inform people; better than sirens no one can hear.

When we are out of power, Keithsburg needs a generator. Is this available through grants? FEMA won't pay for generators unless you're building a storm shelter and the generator is included in the plan.

Seaton asked: Is a warming center and a storm shelter the same thing? No; the difference is the storm shelter has to be wind resistant. But a warming center and storm shelter can be the same thing if requirements are met. Certainly, you can have a warming shelter that is not a storm shelter. It may not have to be new construction but could be an expansion project, as long as construction standards are met.

The church basement is not larger enough in Seaton. Basements are great as a last resort but a lot of people are killed when the basement falls in. There is a lot to be said for building a wind resistant shelter.

The focus group sessions was touched upon, as was Jennifer Hamerlinck's upcoming meeting on September 24 that will focus on emergency sirens. Investigating reverse 911 might be better.

When the Village of Seaton started doing the planning, they were told they needed to take the NMS training. The board was to take the AS700. They never went any further than that because they fell under the fire department. The question was posed as to whether or not the board needed to go forward. The last they heard is the Village had to take the 300s. **Jennifer H. would be able to answer this question.**

Not marked on the map: The Seaton ball diamond that could be useful during the summer months as large gathering places. Keithsburg and New Boston have ball diamonds, too.

Hazard Mitigation Planning for Mercer County
Town Hall Meeting
Wednesday, August 26, 2009
New Boston Fire Station
5-6 p.m.

Background

During the process of creating a hazard mitigation plan, FEMA requires public engagement meetings. In addition to these public meetings, a steering committee meets monthly and focus groups are planned for seven critical areas to look at what can be done to mitigate risk.

Mitigation is any activity to lessen the impact of disasters to people and property. The Steering Committee looked at volumes of historical data that has impacted Mercer County. During that meeting, the Committee assessed risk for each natural disaster categories: severe storm, flooding, winter storm, drought, extreme temperature, earthquake, and tornado. The Committee then identified critical factors: vulnerable populations, medical facilities, emergency response services, and places of large assembly.

Once the plan is completed, Mercer County and each jurisdiction will adopt the Hazard Mitigation Plan that allows for access to FEMA funds. In addition to the plan, FEMA requires a plan maintenance committee that meets annually. Every five years, the plan is reviewed and approved by FEMA.

Examples of types of projects that can be included in hazard mitigation plans: building codes, promoting sound land use, structural retrofits, flood proofing retrofits, flood insurance NFIP, acquisition, informing the public, detention and retention basins, and communities implementing plans.

Open Discussion

The Steering Committee classified flooding as a low priority for the City of New Boston, recognizing the unincorporated area of the Boston Bay is high priority that is covered under Mercer County, and wanted to check with those in attendance at this meeting. There was agreement among attendees that this classification was properly reflected. It was noted that Mercer County has up-to-date flood insurance that allowed for this planning process.

Discussion was held on the absence of storm shelters in the County. The New Boston Fire Department has a generator that allows for emergency shelter use but does not meed storm shelter codes.

It was noted that the County does not have to be declared a disaster area to apply for mitigation projects. The whole goal of hazard mitigation planning is that nothing happens when disaster hits. An observation was made this new approach is to "spend a little and save a lot."

During the ice storm, we used the Fire Station as a community shelter. It did not work well. We had cots everywhere and there were fumes. It really is not a sufficient cold and warming facility. There are plans to build on to the Fire Station. Can this planned addition fulfill a storm compliance and can New Boston get funding to build it?

It was noted that New Boston is at much higher risk for storms, tornadoes, and extreme temperatures than it is for flooding. Do not forget those simple things that do not cost a lot of money, e.g., ensuring that community residents have important information on how to evacuate.

Notification during the ice storm was good in the City of New Boston but not in the rural areas. Maybe this could be done by the fire protection districts?

The group then checked the map to see if there was anything missing. A 93' x 40' community center is located on 502 Main Street, with a dry basement with at least four rooms. It is handicapped accessible, and has a fully stocked kitchen and two wheelchair accessible bathrooms. Access to the basement is via stairs only and they are very steep. Central air and heat have been put in, so the center can work as a good cooling and warming station.

New Boston Fire Station has a map with the fire service zones that would be helpful for the planning process.

Map shows Village of Joy has a Fire Station that is currently recognized on the map as a Police Station. The Police Station is actually in the same building as the Village Hall. Joy shares the same police officer with New Windsor. As an aside, Seaton and Keithsburg share a police officer. Neither the Eliza shelter station on 155th Avenue nor their fire station is on the map.

Hazard Mitigation Planning for Mercer County
Town Hall Meeting
Wednesday, August 19, 2009
Sherrard Fire Station
5-6 p.m.

Background

During the process of creating a hazard mitigation plan, FEMA requires public engagement meetings. In addition to these public meetings, a steering committee meets monthly and focus groups are planned for seven critical areas to look at what can be done to mitigate risk.

Mitigation is any activity to lessen the impact of disasters to people and property. The Steering Committee looked at volumes of historical data that has impacted Mercer County. During that meeting, the Committee assessed risk for each natural disaster categories: severe storm, flooding, winter storm, drought, extreme temperature, earthquake, and tornado. The Committee then identified critical factors: vulnerable populations, medical facilities, emergency response services, and places of large assembly.

Once the plan is completed, Mercer County and each jurisdiction will adopt the Hazard Mitigation Plan that allows for access to FEMA funds. In addition to the plan, FEMA requires a plan maintenance committee that meets annually. Every five years, the plan is reviewed and approved by FEMA.

Examples of types of projects that can be included in hazard mitigation plans: building codes, promoting sound land use, structural retrofits, flood proofing retrofits, flood insurance NFIP, acquisition, informing the public, detention and retention basins, and communities implementing plans.

Open Discussion

During the Steering Committee meeting, it was identified that Mercer County doesn't have a storm shelters, which could either be built new or by retrofitting existing facilities.

The Sherrard Fire Station is used as a heating and cooling station. It has a back-up generator. Should there be a back-up facility if there are more people without power more the Fire Station can hold? They went to every house in the District when they had the ice storm.

Sherrard has water access from Fyre Lake. Water is needed in drought and emergency situations. The age of the water lines is 50 years. The outer perimeter of the town is newer. The town has a pretty high water table; about 30% do not have basements.

Sherrard does not have elderly facilities. The Village has adopted Rock Island building codes and is working on a land use plan.

Matherville has low income housing that needs attention. They have two of these facilities, which needs to be added to the water survey.

Matherville has a new well with a generator on the pump when the electricity is out.

Eliza has their own emergency response committee that is divided into a grid to accommodate homebounds.

GIS maps exist that indicate fire protection districts that covers most of the County, with the exception of unoccupied acreage or those that elected not to participate because of taxes.

Sherrard has interest in building a new library. An ideas is to include a community room that could qualify it as a community shelter.

Storms are probably the biggest concern for Matherville.

No heating or cooling stations are available in Matherville, although Preemption Township Hall is available to those residents.

An education campaign about the County's proximity to the New Mandrid Fault is likely.

For the storm shelter, is it possible to incorporate a village hall, police department, storm shelter, and library into one unit?

They have about 15,000 gallons available to fight fires. What does a large fire take to fight? 200 gallons if you're lucky. About 6,000 gallons are hauled to a fire.

Mercer County Hazard Mitigation Town Hall Meeting
Thursday, March 4, 2010
Aledo Fire Station
6:00-7:00 p.m.

Present:

Arnold Askew, Deb Askew, George Baya, Terri Gibson, Jennifer Hamerlinck, Sandy Lantau, Maxine Henry, Don Korns, Dennis Litwiler, Mike Sponsler, Thomas Thomson

The primary purpose of creating the Mercer County Hazard Mitigation Plan is to meet FEMA requirement for said plan to access their funding streams. Mercer County and jurisdictions therein were required to participate in the planning and subsequently adopt the plan per FEMA approval.

Mercer County Proper was taken off the State of Illinois plan. The Steering Committee established mission statement and goals. These were reviewed in detail. A project list was subsenquently developed and linked to one of the six goals. One of the primary projects is to have storm shelters throughout the County. Storm shelters are built with wind resistant construction in the event of severe storm or tornado so they have someplace close to go. This lends itself for a shelter in each jurisdiction.

Corrections need to be sent to: jsgarnr@illinois.edu by Tuesday, March 9. Changes will be made by Friday, March 12.

Appendix G-Acquisition Meeting Notes

Keithsburg Acquisition of Property Meeting
Keithsburg City Hall
Tuesday, January 26, 2010 – 9 a.m.

Attendees:
Arnold Askew, Ron Davis, Jenny Garner, Terri Gibson, Maxine Henry, Carrie McKillip, Eric Schwartz, Lee Trotter

Notes:
FEMA is looking at DCEO funding the Keithsburg application, because some of that money is set aside for businesses. Another advantage is they can pay 100% of the cost.
Money for Disaster 1771 was around $17 million. With the 1771 funds, they could match FEMA funds and $4 million was earmarked for matching.

The second funding round was $160 million that could be used anywhere in the State from the previous year. These funds cannot be matched.

With regard to the DCEO program, they are working on finding the rules for this program. They are hoping that it is not a second application. DCEO has broader range of assistance. Money is for flood recovery, so can be used to help businesses and replace housing. Funding can also help businesses that were not directly affected by the flood.

There is a component to build replacement housing if the community is identified as a 'need' community. Keithsburg does qualify for this additional housing assistance. The median income of the County does not qualify but Keithsburg does. A subdivision still exists from the 1993 flood with services (8 to 9 lots). Additional property is within proximity to the newer subdivision, but it would have to be developed; water and sewer are close enough to be accessible.

Could a land swap be done from the previous buyout land to convert to ballpark fields, e.g., these 10 acres for these 10 acres? The City currently owns the ballparks that were donated prior to the 1993 flood. You would have to drive through the subdivision to get to the ballpark. It is on the east side of town, whereas the Mississippi River on the west side.

The buyout would allow for building a bathroom in a ballpark facility but concession stands might not qualify. The basic rule is no insurable structures. If you had a trailer pulled out and used for six months of the year, it might be a possibility. You would have to keep the wheels on it and move it out quickly. The flood insurance law is they have to be there less than six months. A carnival concession stand might also work, especially if we can get more housing on top of the hill.

Another idea for reuse is an area for a paint ball park. Motocross bikes might also be an interesting concept. Keithsburg tried the Motocross bikes in two different areas and it didn't take off. A bike or walk trail would also be a good idea. You may be able to get donations from the Arbor Foundation. Soil, Water & Conservation has programs like that, too. Putting in a maze with evergreen plants would also be interesting. Planting prairie grass as tried and it went okay until after the 2008 flood when it became a catch all for the garbage and harbored mosquitoes. Moving a levee is a big expense but it could be moved six blocks, which would create a lot of wetland. The Pope Creek levee is not part of the US Corps of Engineers levee system.

Another issue identified in the hazard mitigation planning process was that the floods divide the town in two, making it about seven miles to get to the other side of town. The fire department is downtown near the river. You need to establish a need further than six miles. The fire trucks and ambulances have to travel on gravel and when it rains, the roads turn to mud.

FEMA would need to know the cost of raising the road but it could not be excessively expensive. How about a bridge or something with big culverts underneath it over that area? The bridge may create fewer problems because it allows the water to flow. Or Healthcare services, ambulance, fire truck, etc. would need to be accommodated on that bridge or other structure.

FEMA is pushing the 406 funds. It has to be damaged in the flood and cost beneficial to do it. They can go up to 10% of something to do a benefit of cost analysis. Unfortunately at this point, we cannot do something like that but could be used for the future. This project is listed in the hazard mitigation plan anyway. There might be wetlands groups interested in it, e.g., Nature Conservancy, Sierra Club, Natural Land Institute.

We are hoping that DCEO takes the application off the e-Grant system. Carrie will email a copy of the State plan that DCEO submitted, which breaks down what can be applied for in categories.

If there are enough people that want to rebuild to apply for the replacement housing application process with DCEO. What do we do with the people who had less than 37% damage? Two things: DCEO doesn't have to do a benefit cost analysis. FEMA does, but a good analysis would be the result because there was enough damage here and since Pope Creek isn't certified, it isn't recognized. What it amounted to is you either had a lot of damage or you didn't, so that is why the 37% and above damage was chosen. We didn't want to include people in the buyout who just had water in the basement. For the public meeting, invite the 37% and lay out these options.

The problem with elevating is they have to give up their basement and where do they go if there's a tornado. A storm shelter for tornadoes is listed in the hazard mitigation plan. What if the ballpark structure was wind resistance and could be combined into civil defense? This wouldn't work on the buyout lands. Is there a component to offer a tornado shelter out of this?

Example: FEMA offered to build a shower facility for a State park that served 500 people daily. It was turned down because they could only protect 200 people and it wouldn't be fair to the other 300 people staying there at the time.

Is the sentiment that the people want to stay? Some have already bolted. The ones that are still here are probably going to stay. The Westmer school combined with Aledo school system, making it more attractive to residents because programming and sports are broadened for their children. New construction can spur some growth to the community as a whole. There are special incentives in there, such as a down payment for taking the buyout and other ways to reduce the amount of their loan.

993 Flood Example: Whatever money you had to borrow, they would come in a take a partial percentage, e.g., 7% loan and it was bought down to 4.5%. The Federal and State programs learned a lot from the 1993 flood. They were making things up as they went along. Keithsburg was pretty close to a guinea pig.

Maxine will work with Jenny to determine sale prices for homes already sold and confirm if others have sold and at what price.

Carrie will get copy of State 1800 plan that went into HUD last year.

It might be better to send a letter to this people regarding their interest in funding for replacement housing instead of having a town hall meeting, but make sure there is no legal qualification that requires a public hearing. You wouldn't have to do so to get input but it would have to be done before submitting the CEDP application.

When will DCEO begin accepting applications and what is the deadline for submission?

Remind residents in the letter communication to keep receipts and also mention if they are under the threat of foreclosure that FEMA won't buy if property if it's foreclosed on. FEMA isn't here to help the banks but rather to help the flood victims. If a bank forecloses, the bank does not get FEMA funding.

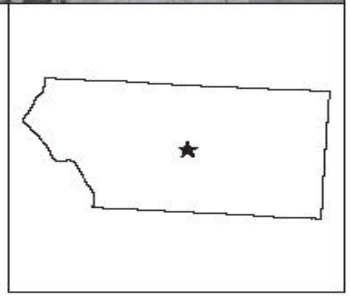
Façade would remain the same but the raised the floors. Her take with those buildings was they were going to cost too much to raze. The Main Street program augments the Historic Preservation program to tie-in the authenticity of the town. There will be another roll-out this year. They are not going to come into a flooded area and put in facades until requirements are met. Could you put in a boardwalk and have people go in on the second floors of the building. Have it so the first floor would be empty.

Area SWAT teams (Navy Seals, Alcohol Tabacco & Firearm, Fire Academy, Police Department) like to use buyout buildings for drills. Would like to have another line item in the budget to remove blighted buildings.

Appendix H - Jurisdictional Maps

Aledo, Mercer County

1:17,048



Legend

- County Boundary Line
- Places-Municipalities
- School
- Airport or Airfield
- Golf Course
- Government Center
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University of Illinois Extension CADS

All data from 2008 US Census TIGER/Line except
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2003 DEM elevation data from ISGS

Datum and Projection:
WGS84, UTM Zone 16N

Map produced by:
University of Illinois U-C Extension CADS
January 2009

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Alexis, Mercer County

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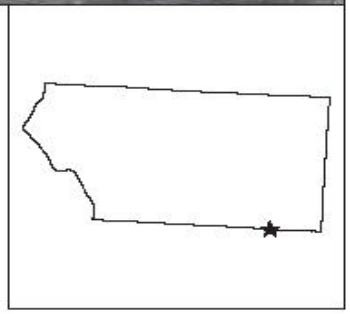

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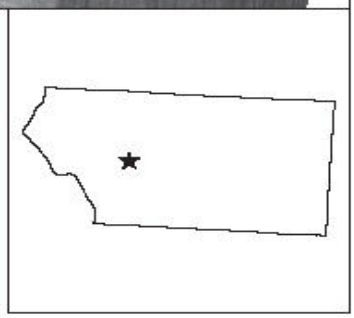
Joy, Mercer County

1:4,950



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Aledo, Mercer County

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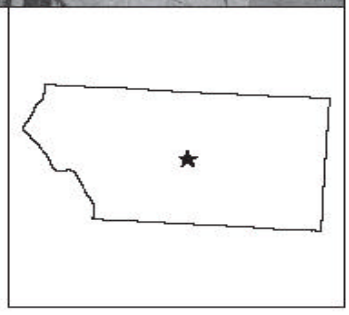

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Matherville, Mercer County

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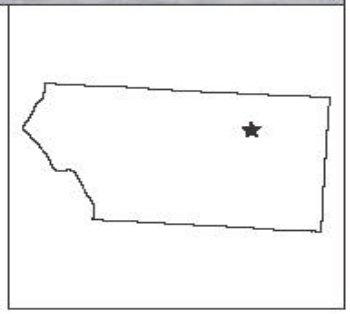

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New Boston, Mercer County

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New Windsor, Mercer County

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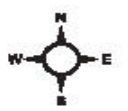

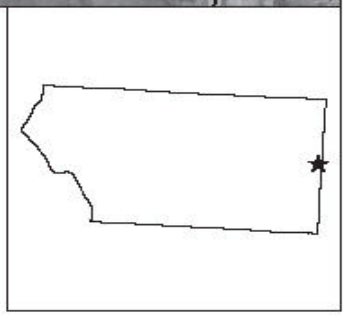

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January 2009

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North Henderson, Mercer County

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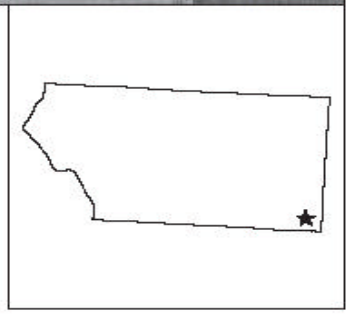

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Map produced by:
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January 2009

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Seaton, Mercer County

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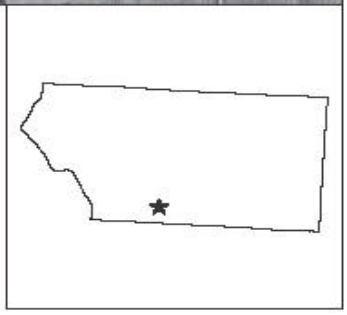

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Map produced by:
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Sherrard, Mercer County

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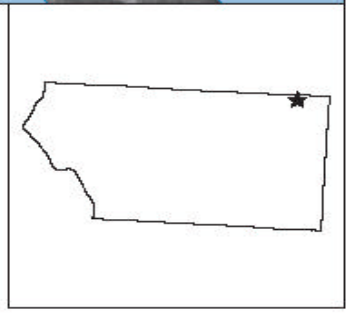

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Map produced by:
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January 2009

0 125 250 375 500 625 750 875 1,000 1,125 1,250 Meters

Viola, Mercer County

1:7,716

Legend

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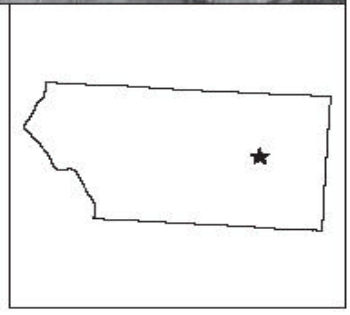
- Ferry Crossing
- Powerline
- Perennial Shoreline
- Intermittent Shoreline
- Stream/River
- Canal, Ditch or Aqueduct
- Lakes/Rivers



All data from 2008 US Census TIGER/Line except
2007 land cover raster data from ISGS,
2005 DOQQ imagery data from ISGS,
2003 DEM elevation data from ISGS

Datum and Projection:
WGS84, UTM Zone 16N

Map produced by:
University of Illinois U-C Extension CADS
January 2009

0 180 360 540 720 900 1,080 1,260 1,440 1,620 1,800 Meters